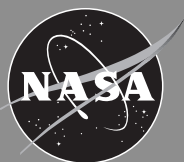


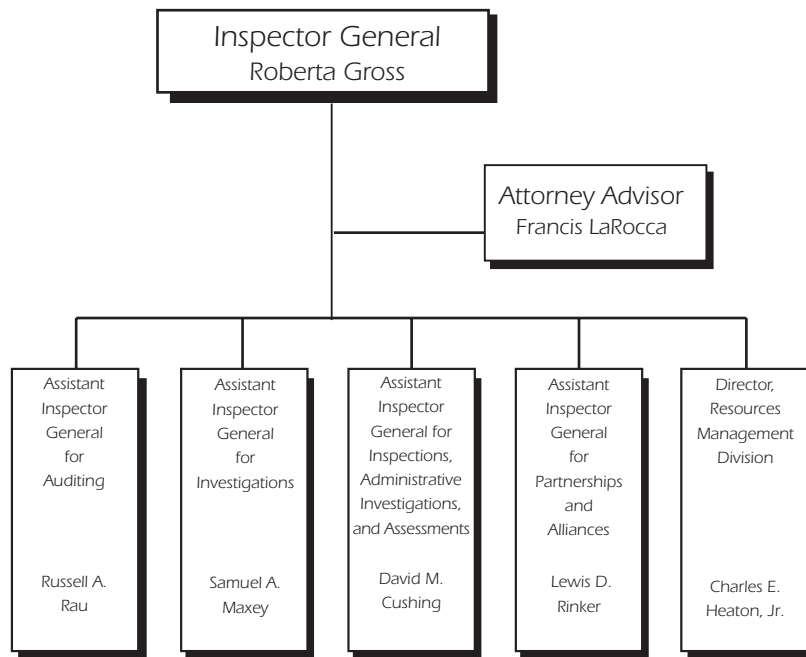
A black and white photograph of the Space Shuttle Endeavour during launch. The shuttle is angled upwards, with its nose pointing towards the top right. The orbiter is attached to the external tank and two solid rocket boosters. The name "USA" is visible on the side of the orbiter, and "NASA Endeavour" is visible on the side of the external tank. The boosters are firing, creating a large plume of smoke and fire at the bottom.

Office of Inspector General SEMIANNUAL REPORT



National Aeronautics and
Space Administration

April 1, 1998–September 30, 1998



OFFICE LOCATIONS OF THE NASA INSPECTOR GENERAL

NASA Office of Inspector General

Code W/
NASA Headquarters
Washington, DC 20546-0001
Tel: 202-358-1220

John F. Kennedy Space Center

NASA Office of Inspector General
Mail Stop KSC/OIG
John F. Kennedy Space Center
Kennedy Space Center, FL 32815
Tel: 407-867-4714/4664

Ames Research Center

NASA Office of Inspector General
Mail Stop 204-11
Ames Research Center
Moffett Field, CA 94035
Tel: 650-604-5665

Langley Research Center

NASA Office of Inspector General
Mail Stop 292
Langley Research Center
Hampton, VA 23665
Tel: 757-864-3262

Goddard Space Flight Center

NASA Office of Inspector General
Code 190
Goddard Space Flight Center
Greenbelt, MD 20771
Tel: 301-286-5561

Lewis Research Center

NASA Office of Inspector General
Mail Stop 28-1
Lewis Research Center
Cleveland, OH 44135
Tel: 216-433-5412

Jet Propulsion Laboratory

NASA Office of Inspector General
Mail Stop 180-301
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91109
Tel: 818-354-3360

George C. Marshall Space Flight Center

NASA Office of Inspector General
Mail Stop M-DI
George C. Marshall Space Flight Center
Marshall Space Flight Center, AL 35812
Tel: 256-544-0089

Lyndon B. Johnson Space Center

NASA Office of Inspector General
Code W-JS
Lyndon B. Johnson Space Center
Houston, TX 77058
Tel: 281-483-4773


Internet Website Address

<http://www.hq.nasa.gov/office/oig/hq>

Toll Free Hotline: 1-800-424-9183

Cyber Hotline:

<http://www.hq.nasa.gov/office/oig/hq/hotline.html>



As NASA celebrates its 40th anniversary, the Agency and the world look toward the future with great hope and expectation for the space program. We are on the dawn of a new millennium that will see a permanent human presence in space—the International Space Station—and establish NASA's preeminence in space exploration. The success and safety of this courageous mission depends on the cooperation and support of NASA's employees and contractors, along with its industry, academic, and international partners.

I believe that all those involved in developing, testing, and building the technology of our future must have the ability to exchange information quickly and safely without fear of its being compromised. Increased threats of sophisticated intrusion attempts on Agency computer and communications systems jeopardize that ability. I am dedicated to assisting NASA in protecting those systems that contain sensitive or proprietary information and are critical to mission safety.

During this semiannual period, my Computer Crimes Division (CCD) staff adapted Beowulf technology for use with other tools developed by CCD to build a Beowulf-Class High Performance Computing Cluster. This cluster will analyze evidence gathered from computer and advanced technology crime investigations. In keeping with a faster, better, cheaper philosophy, we built the cluster at a modest cost with commodity off-the-shelf hardware using a concept pioneered by NASA.

A Message From the Inspector General

The date change from 1999 to 2000 could potentially affect the integrity of data and the continuity of processing capabilities of all computer systems. I have devoted significant resources toward conducting audits of NASA's Year 2000 (Y2K) Program. We will perform audits in the Y2K Program's validation, renovation, and implementation phases to assist the Agency in assuring those and other systems activities.

Often, the environment becomes a victim of progress. NASA has taken responsibility for environmental cleanup at its sites throughout the country. During this semiannual period, our audit work resulted in NASA's agreeing to implement the NASA Policy Review Process and the NASA Policy Guidelines process with the Santa Susana Field Laboratory contractor. This may bring more equitable cost sharing arrangements

for NASA. As the Agency continues to negotiate environmental cleanup cost-sharing agreements with other potentially responsible parties, we will monitor its success.

This report represents our work for the second semiannual period of fiscal year 1998. As NASA continues to undergo changes in its organizational structure and business practices, I am committed to helping the Agency attain its goals while maintaining mission safety and cost-effectiveness. I look forward to working with the Administrator and Agency management to those ends.



Roberta L. Gross
Inspector General

Cyber crimes can seriously threaten not only the financial infrastructure of a technologically based society, but also its safety and security. Cyber pranksters can wreak havoc on routine electronic procedures. Our ability to deal both reactively and proactively with these threats requires skill, knowledge, and ingenuity. In September 1998, the President's Council for Integrity and Efficiency (PCIE) presented its "Award for Excellence" to the members of the NASA Office of Inspector General's Computer Crimes Division (CCD) within Advanced Technology Programs Office (ATPO) for its work in the computer crimes and advanced technology fields.

The ATPO/CCD focuses on advanced technologies developed by the Agency and develops strategies and methods to identify and incorporate those technologies into the NASA Office of Inspector General, Federal law

enforcement agencies, and other Government entities. Most notably, the CCD adapted Beowulf Clustering Computing Technology pioneered by NASA into CCD operations to process large volumes of electronic evidence and other data relevant to the division's network systems intrusion investigation work. The CCD is helping other agencies adapt and use this low-cost, efficient, and powerful technology.

Increased awareness of cyberspace threats has led to greater demands on the CCD staff to engage in training and awareness activities. The CCD participates in outreach activities to enhance awareness of the CCD mission and the extent of the cyberspace threat, as well as to leverage scarce resources between agencies.

We commend the staff of this vanguard component of the NASA Office of Inspector General.



Thomas J. Talleur, Director, ATPO, accepts PCIE Award for Excellence.

A Message From the Inspector General	i
Special Recognition .....	.iii
Role of the Inspector General	7
Introduction	9
Focal Issues, High Risk Areas and Material Weaknesses	9
Executive Summary	13
Chapter 1 - Significant Audit Matters	17
Management Decisions	31
Significant Audit Matters Disclosed in Previous Semiannual Report	33
Chapter 2 - Significant Investigative Matters	37
Updates on Selected Cases Reported in Previous Semiannual Reports	43
Chapter 3 - Inspections, Administrative Investigations, and Assessments	47
Chapter 4 - Partnership and Alliances	51
Chapter 5 - Legislation, Regulations, and Legal Matters	57
Chapter 6 - Cooperative Activities, Outreach, and Other Activities	61
Appendices	
I. Audit Reports Issued by the OIG	73
II. DCAA Audits of NASA Contractors	75
III. Directives Reviewed by the OIG	79
IV. Glossary and Acronyms	80

ROLE OF THE INSPECTOR GENERAL

ADMINISTRATION

NASA is a program-driven research and engineering organization that accomplishes most of its programs through Field Centers and contractors spread across the United States. The National Aeronautics and Space Act of 1958 gave the Agency responsibility for the Nation's aeronautical and space activities, except those activities primarily associated with defense that fall under the purview of the Department of Defense (DoD). NASA Headquarters provides oversight and support to its programs, nine Centers, and the Jet Propulsion Laboratory, a Federally Funded Research and Development Center. As of November 1997, NASA employed 19,796 civil servants and approximately 170,000 on- or near-site support services contractor employees. NASA also relies on partnerships with large and small contractors, members of the academic community, other Federal agencies, State and local agencies, and other space agencies throughout the world. NASA's budget authority for fiscal year (FY) 1998 was approximately \$13.5 billion.

ROLE OF THE INSPECTOR GENERAL

The NASA (OIG) performs a balanced, independent program of audits, investigations, inspections, and other activities to assist NASA management in promoting economy, efficiency, and effectiveness in the administration of its programs and operations. Because NASA allocates about 88 percent of its obligations to procurement, a significant amount of OIG activity is directed toward procurement effectiveness and irregularities, as well as contract fraud. We work jointly with other Offices of Inspector General, other Federal agencies, and investigative and audit entities when concurrent jurisdiction exists.

Role of the Inspector General

The OIG is organized into four major units: Audits; Investigations; Partnerships and Alliances; and Inspections, Administrative Investigations, and Assessments. Our staff is located at NASA Headquarters and at 10 NASA installations. Approximately 80 percent of the staff are assigned to field offices. Working under the general direction of the Inspector General, the Assistant Inspector General for Auditing (AIGA), the Assistant Inspector General for Investigations (AIGI), the Assistant Inspector General for Inspections, Administrative Investigations, and Assessments (AIGIAIA), and the Assistant Inspector General for Partnerships and Alliances (AIGPA) are responsible for the development, implementation, and management of their respective programs.

ADMINISTRATION

Sections 6(a)(6) and (7) of the Inspector General Act, as amended, delineate the Inspector General's personnel management authority, subject to the provisions of Title 5, United States Code. Section 6(a)(8) provides

the Inspector General authority to enter into contracts and other arrangements for audits, studies, analyses, and other services with public agencies and private persons and to make payments as may be necessary to carry out the provisions of this Act. The Inspector General Act Amendments of 1988 provide a separate appropriation account for each OIG.

The OIG's internal administrative and support operations are directed and managed by the Director, Resources Management Division (RMD). The Director, RMD, advises the Inspector General and all other OIG managers and staff on administrative, budget, personnel, and management, and this individual oversees OIG adherence to management policies. Under the Director's guidance, the OIG exercises full, autonomous personnel and budget authority. The RMD provides OIG employees with administrative support and coordinates the acquisition of state-of-the-art electronic data processing and office automation equipment and capabilities.

Focal Issues, High Risk Areas, and Material Weaknesses

SAFEGUARDING NASA'S COMPUTER RESOURCES

HIGH RISK AREAS AND MATERIAL WEAKNESSES

FINANCIAL MANAGEMENT SYSTEMS

INFORMATION TECHNOLOGY SECURITY POLICY

FEDERAL FINANCIAL MANAGEMENT IMPROVEMENT ACT OF 1996

SAFEGUARDING NASA'S COMPUTER RESOURCES

Computer Crimes Division (CCD) activities expanded during this period as a general awareness of network systems crimes increased throughout the Agency and the Nation. The CCD caseload has grown by 30 percent since our last report. We continue to work with the Agency to assure the security of the proprietary information contained within its electronic communications systems, as well as the safety of its day-to-day electronic business communications.

Working with other law enforcement agencies, the OIG CCD agents were instrumental in the arrest of a Canadian hacker. The hacker was charged with mischief by willfully obstructing, interrupting, and interfering with the lawful use of data. The charges stem from his illegal intrusions into the network servers operated by NASA and other victims. The hacker altered a network server that allows public access to NASA's home page—210,000 users were denied access, and NASA spent approximately \$70,000 to repair the system. NASA's web page is visited by nearly 7 million users every month.

With the cooperation of Marshall Space Flight Center security, CCD agents apprehended a hacker for launching an e-mail bomb attack consisting of 14,000 electronic mail messages across a NASA network. The mail was directed to a commercial domain on the NASA network system, but use of NASA's network bandwidth caused a simultaneous attack against the Agency's electronic mail network server at the Marshall Space Flight Center in Huntsville, Alabama.

As these incidents demonstrate, vigilance and cooperation are key to safeguarding information technology (IT) systems. Cyber attacks are a growing problem that faces both Government and the private sector. We consider this to be a high risk area of significant concern. The OIG is resolved to focus its efforts on helping the Agency to safeguard its IT resources.

HIGH RISK AREAS AND MATERIAL WEAKNESSES

The OIG continues to focus attention on material weaknesses, areas of significant concern reported under the Federal Managers' Financial Integrity Act (FMFIA), and areas of material nonconformance considered by the OIG to be reportable under the FMFIA.

Financial Management Systems

Office of Management and Budget (OMB) Circular A-127, "Financial Management Systems," requires that Federal agencies maintain a single, integrated financial management system. Because NASA's use of individual nonintegrated systems at Headquarters and the Centers does not fully conform to Circular A-127 requirements, NASA reports its financial management system as a significant issue of concern. To fully comply with Circular A-127 and the additional requirements of the Joint Financial Management Improvement Program, NASA established the Integrated Financial Management Project (IFMP).

The IFMP is an Agencywide, fully integrated, transaction-driven financial management system that fully complies with all statutory and regulatory requirements, including those contained in the Federal Financial Management Improvement Act of 1996 (FFMIA). The contractor developing the software for this new system was unable to meet a key milestone. Missing this milestone has affected the schedule for IFMP implementation. In response, the OIG is reviewing both the IFMP contractor's performance and NASA's oversight of the contractor's performance.

Information Technology Security Policy

NASA has established the oversight of management controls over IT security as a significant management concern. This oversight includes the adequacy of IT security policies and procedures, as well as their implementation. The Chief Information Officer (CIO) is reviewing NASA IT security policies and procedures and strengthening related management controls. During this semiannual period, the OIG continued its review of NASA data center facilities. We continue to have concern for information security and governing policies. We have expressed our non-concurrence on those policies that fragment IT responsibilities rather than placing its single Agency policy oversight with the CIO. The Independent Public Accountant (IPA) that performed the FY 1997 Financial Statement Audit identified weaknesses in the general controls over NASA's

financial management system. Regarding the financial management systems, the IPA recommended that NASA: (1) improve logical access controls, (2) formalize system security documentation of policy and procedures, (3) enhance processes to manage general system controls, (4) strengthen system security-related practices and disaster recovery documentation, and (5) complete Year 2000 initiatives. The CIO is working to implement these recommendations, and the OIG will ensure that corrective action is timely and complete.

Federal Financial Management Improvement Act Of 1996

Public Law 104-208 Section 803(a) states that each agency shall implement and maintain financial management systems that comply substantially with Federal financial management systems requirements, applicable Federal accounting standards, and the United States Government Standard General Ledger at the transaction level. The agency head determines whether the agency's financial management systems comply with Section 803(a). If the systems do not comply, the agency head is required to establish a remediation plan to bring the systems into compliance. The OIG is required to include in its semiannual reports

those instances when an agency has not met the dates in its remediation plan.

In its FY 1997 Accountability Report, NASA stated that it substantially complies with the FFMIA. NASA determined this level of compliance even though its systems are not fully integrated, because FFMIA stipulates that the agencies' systems substantially comply with the requirements outlined above. OMB has issued guidance for determining whether an agency substantially complies with FFMIA requirements. During the FY 1997 Financial Statement Audit, the IPA was required to report whether NASA's financial management systems substantially complied with laws and regulations, including FFMIA requirements. The IPA performed tests of compliance using the implementation guidance for the FFMIA issued by OMB. The IPA determined that while NASA does report a material weakness in its financial management systems related to noncompliance with OMB Circular A-127, the Agency was able to demonstrate that its existing systems substantially comply with FFMIA requirements and the lack of fully integrated systems was not significant enough to trigger non-compliance with the FFMIA.

April 1, 1998 – September 30, 1998

This semiannual report summarizes the audit, investigation, and other activities performed by the Office of Inspector General (OIG) during the 6-month period which ended September 30, 1998. The report is required by the Inspector General Act to keep Administrator and the

Congress currently and fully informed.

During this reporting period, OIG audits and investigations had the following measurable dollar impact:

AUDITS

Better Use of Funds:	\$ 44.8 million
Questioned Costs:	\$ 24.6 million
Total Audit Impact:	\$ 69.4 million
Cost Impact Per Auditor:	\$ 1.0 million

INVESTIGATIONS

Recoveries:	\$ 44.8 million
Better Use of Funds:	\$ 15.0 million
Indictments:	25
Convictions:	18
Cost Impact Per Agent:	\$ 1.2 million

AUDITS

A contractor overpaid \$16.4 million for environmental remediation costs. (Page 20)

An audit disclosed that the Kennedy Space Center (KSC) should develop goals, policies, or procedures to support Executive Order 12873, which requires the Federal Government to

use natural resources efficiently by maximizing recycling and waste prevention activities. (Page 21)

An OIG audit recommends that cost (\$49.7 million) does not warrant construction of a new facility at KSC. (Page 21)

An audit resulted in NASA's developing guidance for calculating

Executive Summary

April 1, 1998 – September 30, 1998

transportation fees for non-NASA payloads flown on the SPACEHAB module. (Page 22)

An audit identified \$1.5 million in unallowable management fees that were paid to a nonprofit organization. (Page 22)

Our audit of a contract consolidation effort disclosed that a NASA contractor may have overstated negotiated savings by \$1.8 million. (Page 23)

An audit recommended that a contractor pay rent for using a NASA-provided facility for commercial purposes. OIG auditors concluded that approximately \$3.1 million in rent should have been collected. (Page 23)

Management concurred with an OIG audit recommendation that the installation of office partitions should have been funded from construction of facilities funds, not research and development funds. (Page 24)

An OIG audit determined that NASA could save \$3.6 million through improved motor vehicle management. (Page 24)

Our audit of NASA's Year 2000 Program indicated that improvements

are needed to ensure success. (Page 24)

An audit disclosed that NASA's IT investment process does not satisfy the Clinger-Cohen Act or OMB requirements for postimplementation reviews of major new IT investments. (Page 25)

As the result of an OIG audit, management is developing Center-specific and programwide cost baselines for outsourcing desktop computers, local area networks, and user support services. (Page 25)

An audit showed that NASA might not fully accomplish the Earth Observing System (EOS) Science Program goals. (Page 26)

An audit resulted in a wider distribution plan for Earth Science Program scientific data. (Page 26)

Management agreed with an audit recommendation to terminate Phase II of a commercial data buy contract, saving \$576,000. (Page 27)

An OIG audit questioned \$95,000 in costs paid to rehired former contractor employees. (Page 27)

An OIG audit disclosed that the management and administration of grant

April 1, 1998 – September 30, 1998

research funds need to be improved. (Page 28)

Audit recommendations were made to protect NASA interests in the acquisition of “excessed” military housing. (Page 28)

An audit recommended clarification of the mission for the National Technology Transfer Center. (Page 29)

INVESTIGATIONS

A hacker disrupts service by altering the NASA web site server. (Page 38)

A hacker launches e-mail “bomb” of 14,000 messages. (Page 38)

A contractor employee admits downloading child pornography from the Internet to several NASA computers. (Page 39)

A former NASA Center employee admits to downloading pornographic images from the Internet to numerous NASA computers. (Page 39)

\$43.0 million was recovered as a result of a joint OIG investigation with the Defense Contract Management Command. (Page 39)

An investigation disclosed that a sub-contractor official paid more than \$32,000 in kickbacks to a prime contractor’s procurement manager. (Page 39)

A former contractor employee is charged with soliciting kickbacks in excess of \$16,000. (Page 40)

An investigation resulted in a contractor being indicted on charges of conspiracy and nine counts of false statements. (Page 40)

Following an investigation, a contractor agrees to pay the Government \$547,000 for false claims he presented under the Small Business Innovation Research (SBIR) program. (Page 40)

Our investigation resulted in a NASA Center employee pleading guilty to one count of theft of Government funds. (Page 41)

As a result of an OIG investigation, a consultant pleads guilty to receiving stolen property. (Page 41)

INSPECTIONS AND ASSESSMENTS

We issued a final report on our inspection of the X-33 Advanced Technology Demonstrator security measures. (Page 48)

Our assessment of a pilot program to outsource Government property disposal activities recommended improvements with which management concurred. (Page 48)

We issued our report on our evaluation of the information technology

Executive Summary

April 1, 1998 – September 30, 1998

security threat/risk assessment issue at the Lewis Research Center (LeRC). (Page 48)

Our report on NASA's financial assistance to Russian cosmonauts and Ukrainian payload specialists identified concerns regarding process controls and the calculation of payments. (Page 48)

We issued a report that recommended enhancing the compatibility of crew members selected for long-duration flights. (Page 49)

PARTNERSHIPS AND ALLIANCES

We began a review to evaluate the technology transition and requirements development process between the Department of Commerce (DoC) Polar-orbiting Environmental Satellite (POES) and the DoD Defense Meteorological Satellite Program. (Page 52)

Advanced General Aviation Transport Experiments (AGATE) is a Government-industry-university partnership to revitalize the U.S. general aviation industry. We initiated a review to examine NASA's partnering activities with industry and universities, AGATE's results and achievements, and its contributions to aviation safety. (Page 52)

We initiated a review of the Advanced Air Transportation Technology (AATT) Program, a subelement of the Aviation System Capacity (ASC) Program. ASC's goal is to develop

high-payoff technologies in cooperation with the Federal Aviation Administration (FAA) and the aeronautics industry. (Page 52)

In response to our earlier review of NASA's New Technology Reporting, management completed its implementation of actions to improve this vital program. (Page 52)

Our review of NASA's use of audit services provided by the Defense Contract Audit Agency (DCAA) identified improvements needed in the use and oversight of the services provided. (Page 53)

We issued a report on NASA's implementation of the Single Process Initiative program identifying inconsistent implementation across the Centers, minimal cost savings, and inadequate staffing resources for effective program implementation. (Page 54)

Our review of the Aeronautics and Astronautics Coordinating Board implementation results concluded that, while being a successful partnership, about half of the recommendations remain incomplete, which includes potential opportunities to improve operations and reduce costs. (Page 55)

Significant Audit Matters

AUDIT STATISTICAL HIGHLIGHTS

APRIL 1, 1998 – SEPTEMBER 30, 1998

AUDIT ACTIVITIES

OIG Reports Issued	32
DCAA Reports Referred to NASA Management by OIG	0
Other External Reports Referred to NASA Management by OIG	0
Other Audit Activity	6 ¹

AUDIT IMPACT

Recommended Better Use of Funds	
OIG	\$44.8 million
DCAA	0
Other External	0
TOTAL	\$44.8 million
Questioned Costs	
OIG	\$24.6 million
DCAA	0
TOTAL	\$24.6 million
TOTAL Audit Dollar Impact	\$69.4 million

Section 5(a) of the Inspector General Act, as amended, delineates those areas to be covered in the semiannual report, including the identification of significant problems, abuses, and deficiencies relating to the Agency's programs and operations and the recommendations made in the current reporting period with respect to those issues. In 1980, the Senate Committee on Appropriations directed the Inspector General to

include in the semiannual report a summary of unresolved audits.

OIG audits evaluate the economy, efficiency, and effectiveness with which NASA performs and manages its programs and operations. During this period, the OIG issued 32 audit reports that addressed program and operational areas with a high vulnerability of risk and impact on NASA operations, internal control weaknesses, and other management

¹ These efforts are summarized in Chapter 6 as audit cooperative efforts.

deficiencies. Appendix I lists these reports. Because many of NASA's major contractors are also DoD contractors, the services of the DCAA are relied on for most audits of contractors. The OIG, in coordination with the DCAA, has expanded its audit coverage of NASA contractors for many reasons. Those reasons include: issues reported in OIG audits and investigations, the importance of contractors in performing NASA's mission, the continued use of onsite contractors to provide support services to NASA, and the significant impact contractor data have on NASA's financial statements. In addition, we are reengineering the process used for fulfilling our statutory responsibilities related to contract audits and audits of NASA grants and contracts at educational and nonprofit institutions that are performed by public or state auditors with cognizant Federal agency oversight. Our goal is to ensure that NASA receives high-quality audit services and properly resolves and acts on the results of those audits. Information on all DCAA reports issued and action taken by NASA management during the 6-month period are contained in Appendix II.

The OIG is developing a plan for reviewing NASA's implementation of the Government Performance and Results Act. Our coverage in this area will likely be performed as part of planned FY 1999 audits, in which the review of performance data is essential to drawing conclusions on the

effectiveness of the program or activity being audited.

The OIG assists NASA management and other customers through audit cooperative and outreach efforts. Activities during this reporting period are detailed in Chapter 6.

Chief Financial Officer

The Chief Financial Officers (CFO) Act of 1990 (Public Law 101-576) requires NASA's financial statements to be audited according to generally accepted Government auditing standards by the OIG or by an independent public accountant (IPA), as determined by the OIG. The Act also requires reports on NASA's system of internal controls and compliance with laws and regulations. To meet its responsibilities under the CFO Act, the OIG contracted with an IPA firm to conduct the financial statement audit and is actively monitoring its work.

To adequately ensure the quality of the IPA's work, the OIG developed a work program that incorporates the Federal financial management and audit requirements, as well as Government auditing standards. This work program was designed to include the audit requirements for Federal financial statements issued by OMB, which were effective beginning with audits of FY 1998 financial statements. The OIG is establishing a CFO working group with other Federal agencies, to develop a CFO IPA review work program for use

Governmentwide. In addition, the OIG is monitoring NASA's progress toward implementing recommendations made by the IPA during previous years' CFO audits.

We are presently working with the CFO and IPA to ensure that the new standards issued by the Federal Accounting Standards Advisory Board are effectively implemented at NASA. These new Statements of Federal Financial Accounting Standards (SFFAS) and Statements of Recommended Accounting Standards (SRAS) are applicable to NASA's FY 1998 financial statements. These statements include new requirements relating to managerial cost accounting (SFFAS #4); accounting for property, plant, and equipment (SFFAS #6); accounting for revenue and other financial sources (SFFAS #7); and supplementary stewardship reporting (SRAS #8). The new standards have resulted in new financial statement form and content requirements issued by OMB.

Year 2000 Issues

For NASA's computer systems, the change of date from 1999 to 2000 could potentially affect the integrity of data and the continuity of processing capabilities. The OIG has devoted significant resources toward conducting audits of NASA's Y2K Program. During this period, we have complet-

ed an audit of NASA's Y2K Program's assessment phase.² The OIG has ongoing work in the area of Y2K oversight of NASA's production contractors. The preliminary results of this audit have shown that NASA lacks reasonable assurance that production contractors will provide Y2K compliant data to support the Agency's key financial and program activities. Future OIG audits will be performed in the Y2K Program's validation, renovation, and implementation phases.

Program and Project Management

Subsequent to the issuance of NASA's *Program and Project Management Processes and Requirements Guide* (NASA Procedures and Guidelines (NPG) 7120.5), the OIG initiated an effort to prepare a guide to be used during the review and evaluation of major acquisitions, from planning to flight readiness certification. In FY 1999, we plan to evaluate several projects being managed under the predecessor guidance to determine whether problems encountered would be alleviated through the implementation of the new NPG. We also plan to review several projects following the new NPG to determine whether its implementation has improved:

- (1) program and project planning,
- (2) cost and schedule control, and
- (3) risk identification and mitigation.

² This narrative appears later in this chapter under the heading "Improvements Needed to Ensure Success of NASA's Year 2000 Program."

Educational and Nonprofit Organizations

Public Law 98–502, the Single Audit Act of 1984, and Public Law 104–156, the Single Audit Act Amendments of 1996, require an annual audit of recipients that receive more than \$300,000 in annual Federal funding. Only auditors who meet the independence requirements of the Government Auditing Standards can perform the audit. The work performed must also meet the auditing and reporting requirements of OMB Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*. Federal award recipients that expend \$25 million or more will be assigned a cognizant Federal audit agency for a 5-year period, beginning with the recipient's 1995 fiscal year. For recipients expending less than \$25 million, the oversight audit agency will be the Federal organization with the predominance of direct Federal expenditures.

The OIG is identifying the organizations for which NASA has audit cognizance through the year 2000. The OIG will perform reviews of the applicable audit reports and independent auditors' working papers to determine whether the review was performed in accordance with the applicable laws and guidance. The OIG also plans to review the work of independent auditors' at other organizations that annually report significant NASA expenditures.

The following are significant audit matters during this reporting period.

ENVIRONMENTAL PROGRAM

NASA Overpaid Contractor \$16.4 Million for Environmental Remediation Costs

The Rocketdyne Division of Boeing North America (Rocketdyne) operates the Santa Susana Field Laboratory (SSFL) in Ventura, California, for rocket engine testing. Between 1954 and 1961, Rocketdyne used trichlororethylene (TCE) as a cleaning solvent for flushing engines and test stands. The use of TCE at SSFL resulted in significant environmental contamination. Rocketdyne became aware of this contamination in 1984. Environmental laws require past and present owners, operators, and generators of hazardous waste to clean up the hazardous waste sites. As one of the owners of SSFL, NASA has paid remediation costs and will continue to do so. Our audit showed that NASA has been unable to negotiate a cost-sharing agreement for remediation costs with the other parties involved in the SSFL facility. As a result, NASA may have overpaid Rocketdyne \$16.4 million for the remediation costs during the period 1984 through 1997. Over the next 40 years, NASA could further pay an annual average of \$6.8 million in remediation costs with little assurance that these costs will be recovered from other responsible parties.

The audit also showed that Rocketdyne's method for distributing environmental preventive costs resulted in a disproportionate share of those costs being paid by NASA. This practice resulted in NASA potentially overpaying Rocketdyne \$4.7 million for these costs during FY 1996 and 1997. If not addressed, NASA may overpay \$6.9 million annually for environmental preventive costs over the next 40 years.

We made recommendations to negotiate a cost-sharing arrangement for remediation costs and obtain an equitable distribution of preventive costs. Management concurred with the recommendations and has planned or implemented responsive corrective actions.

Kennedy Space Center Recycling Efforts Need Improvement

Executive Order 12873, "Federal Acquisition, Recycling and Waste Prevention," requires the Federal Government to use natural resources efficiently by maximizing recycling and waste prevention activities. The OIG conducted an audit to determine whether the Kennedy Space Center (KSC) is maximizing its recycling efforts. The audit showed that KSC did not have the necessary goals, policies, or procedures to support the Executive Order requirements. The audit also showed that KSC did not enforce those procedures to ensure proceeds from its recycling program are retained. These proceeds can be used to benefit the existing recycling

program or other Center environmental efforts. We estimate that recycling revenue of approximately \$141,000 was not available to fund additional projects. We made recommendations to ensure that KSC (1) complies with appropriate recycling guidance and (2) efficiently collects additional revenues that can be used to promote the Center's recycling program. KSC management concurred with the recommendations and initiated appropriate corrective actions.

HUMAN EXPLORATION AND DEVELOPMENT OF SPACE PROGRAM

Palmdale is Appropriate Location for Orbiter Maintenance

An Orbiter Maintenance Down Period (OMDP) is the time period that one of NASA's four Space Shuttle orbiters is taken out of service for structural inspections and modifications. An OIG audit concluded that OMDP's performed at Palmdale, California, at least until the deployment of critical International Space Station (ISS) components, would provide KSC with more flexibility to address and correct anomalies while processing the Shuttles for ISS launches. The complexity and time-critical schedule of ISS assembly could affect the KSC infrastructure. The audit showed that although NASA could save \$7.6 million per OMDP using existing KSC facilities, there is significant risk associated with performing OMDP's and orbiter processing at KSC. KSC has not demonstrated the ability to perform the anticipated level of major

modifications in its present facilities. KSC could experience significant difficulty doing so while supporting the more aggressive flight manifest associated with the ISS. Although a new facility at KSC would reduce the risk to the current flight manifest, the \$49.7 million facility investment cost does not warrant its construction because the investment would not be recovered until 2020. Management concurred with our recommendation to reevaluate the OMDP location when significant changes occur to the Shuttle program.

Costs Not Recovered for Commercial Payloads Flown on the SPACEHAB Module

NASA contracts with SPACEHAB, Inc., for the lease of pressurized modules for NASA payloads to be flown on the Space Shuttle. As part of this \$43 million contract, NASA agreed to allow non-NASA customers (secured by SPACEHAB) to share payload capacity on Space Shuttle missions covered by the contract. An OIG audit showed that NASA sought consideration for the associated transportation costs allocable to non-NASA payloads through a reduced price for the contract. However, because clear guidance on how to determine the appropriate amount of consideration does not exist, NASA has no assurance that sufficient consideration was received. Based on a method used for previous contracts involving non-NASA payloads, the OIG calculated that transportation costs should have been \$19.12 mil-

lion more than NASA received. We recommended that NASA develop guidance for calculating transportation fees for non-NASA payloads flown on the Space Shuttle's SPACEHAB module. NASA concurred with the recommendation and has initiated corrective actions that are considered responsive.

\$1.5 Million in Unallowable Management Fees Paid to Nonprofit Organization

In 1995, the NASA Zero Base Review identified the concept of science research institutes as a potentially beneficial approach to maintain or improve the quality of science during a period of organizational streamlining. The goal was to operate 11 institutes under competitively awarded contracts or cooperative agreements to conduct research to support the missions of selected NASA Centers. In 1997, three Centers—Ames Research Center (ARC), Lewis Research Center (LeRC), and Marshall Space Flight Center (MSFC)—entered into cooperative agreements with a nonprofit organization to establish research institutes. The NASA Centers agreed to pay management fees on the cooperative agreements that will total about \$1.54 million over the next 5 years. Consequently, the nonprofit organization used management fees to pay for unallowable costs on the cooperative agreements. We revised our final report to recommend that NASA establish policy requiring the

authorization, justification, and approval of management fees to non-profit organizations on cooperative agreements. That policy should define a process for considering the use of management fees and emphasize that routine use should be discouraged. The OIG asked for comments to the revised recommendation in the final report.

Contractor Receives \$1.8 Million More Than Entitled Under Contract Clause

In April 1996, NASA signed an agreement with AlliedSignal Technical Services (Allied) and Computer Sciences Corporation (CSC) to consolidate three existing support services contracts into a single prime contract with Allied. Allied submitted a cost reduction proposal describing changes in its work practices and included organization and contract cost reductions that would occur as a result of these changes. Based on this proposal, Allied and NASA negotiated a \$34.8 million contract cost reduction with NASA sharing 20 percent of actual savings with Allied, up to a maximum of \$7.2 million. An audit showed that Allied's cost reduction proposal overstates negotiated savings by \$9.0 million. This overstatement resulted in Allied's receiving \$1.8 million more than entitled under the contract's shared savings clause. We recommended that NASA seek to recoup the \$1.8 million paid to Allied. Management did not concur with the recommendation. The OIG reaffirmed its position in the final

report and requested additional comments.

INFRASTRUCTURE AND SUPPORT PROGRAM

Contractor Using NASA-Owned Property Rent Free for Commercial Business

The Federal Acquisition Regulation (FAR) requires that contractors pay rent when using Government-furnished property for non-Government business. An audit showed that MSFC management authorized a contractor's use of NASA-owned production property at the SSFL on a rent-free basis. The contractor used the property in support of a commercial launch vehicle effort. MSFC cited the Commercial Space Launch Act (CSLA) of 1984 as the basis for its authorizations. The CSLA provides for Government agencies to make only their launch property, not production property, available to support the commercialization of these programs. NASA Headquarters officials notified MSFC that commercial use of production property does not fall under the purview of the CSLA, but is instead rent bearing. Despite this notice, MSFC never withdrew its authorizations. OIG auditors concluded that approximately \$3.1 million in rent should have been collected by MSFC. We recommended that MSFC withdraw its authorization and charge the contractor rent for both its past and future commercial use of the property. Management concurred with the recommendations and initiated actions to collect rent in the

future when the SSFL is used for commercial purposes. Management is also reviewing the potential for collecting rent for past commercial use of the facility.

\$385,000 of Research and Development Funds Used to Construct Building Partitions

The Earth System Science Building (ESSB) is a recently constructed 237,000-square-foot structure at Goddard Space Flight Center (GSFC). The building will provide technical facilities and support space to conduct research activities for the EOS Science Program. An audit of management controls on the building's construction contract showed that research and development funds were improperly used to install partitions in the ESSB. The partitions were classified as facility outfitting by GSFC management to justify the use of research and development funds, thus bypassing the NASA Headquarters' approval process. The audit further showed that these partitions do not meet the description of outfitting as defined in NASA's *Facility Project Implementation Handbook*, because they were completed during construction. As a result, approximately \$385,000 of research and development funds was improperly used. We recommended that the \$385,000 be returned to GSFC's research and development account and that the partitions be funded from construction of facilities funds. Management concurred with the recommendation and took steps to appropriately fund the partition installation.

\$3.6 Million in Savings Possible Through Improved Motor Vehicle Management

NASA Centers maintain fleets of general-purpose vehicles to meet NASA and contractor transportation needs. An OIG audit at four Centers disclosed that all four had excess vehicles. In addition, two Centers continue to purchase and maintain, rather than lease, vehicles through the General Services Administration (GSA). We determined that NASA could save up to \$1.7 million annually by disposing of underused vehicles, and as much as an additional \$1.9 million annually by converting its Agency-owned vehicles to GSA leases. We recommended that NASA management take actions to reduce costs by identifying and eliminating underutilized general-purpose vehicles and acquire and maintain vehicles in the most economic manner. Management concurred with the recommendations and is taking steps to implement corrective actions.

CROSSCUTTING PROCESSES

INFORMATION ASSURANCE AND TECHNOLOGY AUDITS AND PROGRAM

Improvements Needed to Ensure Success of NASA's Year 2000 Program

For many computer systems, the change of date from 1999 to 2000 and beyond has the potential to affect the integrity of data and the continuity of processing capabilities. With

many computer systems using a two-digit format to generate a date, the change to the year 2000 could affect any system or program, including desktop software. An OIG audit of NASA's Year 2000 (Y2K) Program's assessment phase found that some NASA Centers did not have documented support for Y2K cost estimates reported to OMB, and they did not prepare the estimates using a consistent methodology. In addition, documentation did not always exist to support the manner in which Center assessments and decisions for Y2K compliance were conducted. The audit also showed that NASA Centers need to improve the sharing of information on the status of Y2K compliance associated with commercial off-the-shelf (COTS) products. Three recommendations were made to assist NASA in addressing the Y2K date conversion problem. Management concurred with two of the recommendations concerning documentation for Y2K assessments and the sharing of information on COTS products. Management did not concur with the recommendation concerning guidance for Y2K cost estimates. We reaffirmed our position on this recommendation and requested additional comments in the final report.

Information Technology Investment Process Does Not Satisfy Requirements for Postimplementation Reviews

Congress enacted the Clinger-Cohen Act in 1996 to improve the management of Federal agencies' information

technology (IT) resources. The OMB issued guidance describing the phases of the IT capital planning and investment control process. An audit showed that NASA's IT investment process does not satisfy the Clinger-Cohen Act or OMB requirements for postimplementation reviews of major new IT investments. Although NASA has established a program and project evaluation process, it differs from that required by both the Clinger-Cohen Act and OMB requirements in that NASA has focused on assessing systems in the selection and control phases of the IT investment process rather than on assessing fully operational systems. In addition, the Agency's existing evaluation process results in conclusions regarding one specific program or project, whereas a postimplementation review should result in improvements in the overall capital planning and investment control process. We made recommendations to ensure NASA's process for evaluating IT investments is fully compliant with Clinger-Cohen and OMB requirements. NASA management concurred with the recommendations and agreed that clarification of the current processes was needed.

Accurate Cost Data Needed to Place Outsourcing Delivery Orders

In December 1996, NASA decided to outsource its desktop computers, local area networks, and user support services. NASA's decision was based primarily on the results of its outsourcing study referred to as the

Business Case Analysis. After completing the Business Case Analysis, NASA updated the available cost data to support each phase of the competitive procurement process. An audit found that NASA had not issued guidance to the Centers on preparing reliable cost estimates to support delivery order placement. Without reliable and relevant cost data based on consistently prepared estimates, the Centers may be unable to make well-informed decisions on the type and extent of desktop services needed, compare vendors, or determine the actual savings achieved. We recommended that the NASA CIO issue detailed guidance to the Centers for developing cost estimates necessary to determine the type and extent of outsourcing services to be acquired. The CIO concurred with recommendations and stated that the responsible program office is now directing the development of Center-specific and programwide cost baselines. The CIO also is working with each Center to ensure an accurate and consistent data call and data assessment.

EARTH SCIENCE PROGRAM

Budget Reductions and Unsatisfactory Performance Impact NASA's Ability to Meet EOS Science Objectives

The EOS Science Program uses interdisciplinary research that focuses on defining the state of the Earth system, understanding its basic processes, and developing and applying predictive models for these approaches. An OIG audit showed that NASA might not

fully accomplish the EOS Science Program's original objectives. Specifically, the audit identified significant budget reductions and unsatisfactory performance or nonresponsiveness by 5 of the program's 29 interdisciplinary science teams as having affected the program's ability to fully accomplish its objectives. A recommendation was made to revise the EOS Science Program's original science objectives to reflect these issues. NASA generally concurred with the recommendation and planned corrective actions that are considered responsive.

Earth Science Data and Information Are Not Reaching All Users

NASA's Earth Science Program is a scientific endeavor seeking to provide an understanding of Earth and how it is changing, both naturally and as the result of human interaction. The Earth Science Strategic Enterprise Plan provides NASA's vision of a broad spectrum of five categories of users for the program's data and information. An OIG audit showed that although the Office of Earth Science has taken initiatives to enhance dissemination services to make data and information more accessible; these products are primarily being designed to support the scientific community. We found that four of the five intended user groups (commercial, technological, educational, and the public sector) are not receiving or making any significant use of the data and information. We made recommendations to establish

and fund a formal outreach plan to focus dissemination efforts on nonscientific customers and to integrate nonscientific user groups more fully into the Office of Earth Science's data dissemination activities. NASA concurred with the recommendations and has initiated or planned corrective actions.

NASA Can Save \$576,000 by Not Awarding a Contract for Commercial Data

Congress and OMB directed NASA to initiate a \$50 million program to acquire commercial data products needed to meet Earth Science Enterprise research goals. NASA plans to accomplish the program in two phases. An OIG audit showed that 1 of 10 contracts awarded for Phase I duplicated an existing NASA capability to access the same data through current Agency agreements. This resulted in NASA unnecessarily expending \$295,000 during Phase I of the commercial data buy program. Cost projections show that NASA could unnecessarily spend an additional \$576,000 during Phase II. We recommended that the Phase I data buy contract be terminated and that NASA not award a Phase II contract. Management did not concur with the recommendation to terminate the Phase I contract because termination would not have been cost advantageous to the Government; the Phase I award was nearing completion. Management concurred with the second recommendation and notified the contractor that NASA would not pursue a Phase II contract.

SPACE SCIENCE PROGRAM

\$95,000 in Costs Paid to Former Contractor Employees Questioned

The Jet Propulsion Laboratory (JPL) is a Federally Funded Research and Development Center operated by the California Institute of Technology under a NASA contract. An OIG audit reviewed controls over payments to rehired former JPL employees. The audit showed that JPL rehired former employees as consultants and extended their services without adequate justification; JPL also paid former employees at a daily rate that exceeded their final JPL salary rate. Former employees were also rehired as on-call personnel without adequate justification. We questioned more than \$95,000 paid for consultants and on-call services in which JPL did not follow its own policies. We recommended that NASA management direct JPL to (1) comply with existing procedures for hiring consultants and on-call personnel, (2) revise its procurement policies and procedures to include managerial review and approval of consultant agreements and documentation of consultants' work, and (3) establish procedures for justifying the rehire of former employees for on-call services. We also recommended that NASA management review the reasonableness of costs paid for obtaining consulting and on-call services from former JPL employees and recover any unreasonable costs. Management generally concurred with the recommendations

and has planned or initiated corrective action.

AERO-SPACE TECHNOLOGY PROGRAM (FORMERLY AERONAUTICS AND SPACE TRANSPORTATION TECHNOLOGY PROGRAM)

Management and Administration of Grants Need Improvement

NASA obligates approximately \$400 million annually for grant research. NASA accountants use grantee quarterly financial reports to record cost and disbursement data into Center accounting systems. These reports must be accurate, timely, and recorded promptly so that management can make informed and reliable operating decisions. An OIG audit of grant reporting and recording practices at four Centers showed that financial reports were often late and that Centers did not always record grant data accurately and promptly. The audit also showed that NASA (1) did not adequately monitor report timeliness or close out grants in a timely manner, (2) overstated FY 1997 grant costs, and (3) lacked a centralized data base of information to identify those grantees not meeting financial reporting requirements. These issues can or did lead to inaccurate accounting data, understated grant costs, unreliable cost and disbursement reports, an unreliable basis for budget and program decisionmaking, and an inaccurate cost carryover position at the fiscal year's end. We made a total of nine recommendations to help improve the Agencywide management and administration of grants. NASA

management concurred with seven and had already taken or planned corrective actions.

Plan to Acquire Excess Military Housing Contains Risks

ARC plans to acquire 693 military family housing units that the Air Force will excess because of base realignment and closure decisions. ARC plans to acquire the housing because of (1) the need to maintain a noise buffer between the Center's wind tunnels and the surrounding community and (2) the belief that low-cost housing will retain and attract military tenant organizations that help defray the cost of maintaining and operating Moffett Federal Airfield. ARC management believes the housing units can be acquired and operated at no cost and little risk to NASA. An OIG audit showed that the cost-benefit study supporting ARC's cost assertions does not fully identify and consider all costs associated with the housing. In addition, ARC has not resolved all legal and environmental issues associated with the housing. The OIG concluded that the planned housing acquisition and operation could incur additional costs for ARC and increase liability for NASA. We recommended that ARC (1) ensure that the proposed military family housing operation incurs no cost for NASA and involves no use of Agency personnel and (2) minimize NASA's exposure to potential tort and environmental liability from continuing the military family housing operation. Management concurred

with the recommendations and is taking corrective action.

National Technology Transfer Center's Mission Needs to Be Defined

The National Technology Transfer Center (NTTC) fosters NASA and Federal technology transfers with U.S. industry and provides businesses with access to information, expertise, and facilities. Located at Wheeling Jesuit University in West Virginia, the NTTC is one element in NASA's technology transfer network. An OIG audit showed that, in 1995, NASA directed the NTTC to shift its technology transfer focus from national to strictly NASA focus without formally defining the NTTC's revised mission. As a result, the NTTC's mission is unclear and similar to that of NASA's

Regional Technology Transfer Centers. In addition, the NTTC is not fully integrated into NASA's technology transfer organization. The audit also identified that (1) some NASA-specific activities are inappropriate under the cooperative agreement with Wheeling Jesuit University, (2) the NTTC's monthly reports do not include enough performance information, and (3) the NTTC charged \$19,500 of unallowable costs to the NASA cooperative agreement. We recommended that NASA (1) clearly define the NTTC's mission, (2) acquire services using the appropriate award instrument, (3) revise the monthly report format, and (4) recover the unallowable costs. Management concurred or partially concurred with the recommendations and has taken or planned responsive corrective actions.

Management Decisions

REVISED DECISIONS

DISAGREEMENT ON PROPOSED ACTIONS

STATUS OF MANAGEMENT DECISIONS

REVISED DECISIONS

Section 5(a)(11) of the Inspector General Act, as amended, requires a description and explanation of the reasons for any significant revised management decision made during the reporting period. During this reporting period, there were no such instances.

DISAGREEMENT ON PROPOSED ACTIONS

Section 5(a)(12) of the Inspector General Act, as amended, requires information concerning any significant management decisions with which the Inspector General is in disagreement. See Chapter 5, "Legislation, Regulations, and Legal Matters."

STATUS OF MANAGEMENT DECISIONS

Sections 5(a)(8) and (9) of the Inspector General Act, as amended, require statistical tables on the status of management decisions on OIG audit reports involving questioned costs or recommendations that funds be put to better use. The following two tables summarize the status of management decisions as of September 30, 1998.

OIG AUDITS WITH QUESTIONED COSTS

Type of Audit	Number of Audit Reports	Total Questioned Costs
No management decision was made by beginning of period	4	\$3,471,584
Issued during period	5	\$44,565,448
Needing management decision during period	9	\$48,037,032
Management decision made during period:	3	\$18,404,000
amounts disallowed	2	\$17,034,600
amounts not disallowed	2	\$1,369,400
No management decision at end of period:	7	\$9,633,032
less than 6 months old	5	\$8,165,448
more than 6 months old	2	\$1,467,584

OIG AUDITS WITH RECOMMENDATIONS THAT FUNDS BE PUT TO BETTER USE

Audit Reports	Number of Audit Reports	Dollar Value of Recommendations
No management decision was made by beginning of period	6	\$35,001,897
Issued during period	5	\$44,856,000
Needing management decision during period	11	\$79,857,897
Management decision made during period:	5	\$12,306,000
amounts management agreed to be put to better use	3	\$2,511,000
based on proposed management action	3	\$2,511,000
based on proposed legislative action	0	0
amounts not agreed to be put to better use	2	\$9,795,000
No management decision at end of period:	7	\$67,551,897
less than 6 months old	2	\$42,050,000
more than 6 months old	5	\$25,501,897

Significant Matters Reported in Previous Semiannual Reports for Which Corrective Actions Are Still in Progress

HUMAN EXPLORATION AND DEVELOPMENT OF SPACE PROGRAM

SPACE SCIENCE PROGRAM

INFRASTRUCTURE AND SUPPORT PROGRAM

AERO-SPACE TECHNOLOGY PROGRAM

HUMAN EXPLORATION AND DEVELOPMENT OF SPACE PROGRAM

Shuttle Processing Subcontract Audit Identifies Fraud Indicators

The audit of the Space Operations subcontracting function under the KSC Shuttle Processing Contract identified a significant number of fraud indicators in two construction subcontracts valued at a total of \$7.0 million. We recommended that management address the procurement fraud indicators identified in this audit and review \$2,076,073 in unsupported cost, disallowing at least \$885,519. Management concurred and completed actions on all recommendations except one. Closure of the remaining recommendation is pending the completion of other OIG reviews of the matter.

Amendments to Commercial Revenue Sharing Agreement Were Not in NASA's Best Interest

An OIG audit showed that amendments to the agreement with Columbia Communications Corporation (CCC) for excess commercial-band (C-band) capacity on three Tracking and Data Relay Satellites were not in NASA's best interest. Specifically, we found that CCC: (1) claimed unreasonable marketing and operations costs, resulting in approximately \$709,000 of lost revenue to NASA; (2) improperly used C-band revenues to pay profits, resulting in an additional \$108,000 in lost revenue to NASA over a 2-year period; and (3) did not comply with the lock box provision of the agreement to ensure that the company was reporting all C-band revenues accurately. We recommended that the Office of

Space Flight (1) establish clear guidelines to determine what constitutes allowable and reasonable marketing and operations expenses under the C-band agreement, (2) require operations expenses be fully documented, (3) pursue the recovery of \$108,000 in improperly paid profits from CCC, and (4) ensure that CCC's customers send their payments directly to the bank lock box as required by the C-band agreement. The Office of Space Flight concurred with our recommendations and has planned corrective actions.

During the last reporting period, CCC underwent an audit by an independent public accounting firm. NASA expected to establish guidelines for marketing and operations expenses upon completion of the audit. However, the audit did not provide the needed data. NASA has also reviewed the \$108,000 of revenues used to pay profits and determined that it was not recoverable.

SPACE SCIENCE PROGRAM

Plan to Privatize NASA's Sounding Rocket Program Not Supported

An audit of NASA's determination and plan to privatize the Sounding Rocket Program at the Wallops Flight Facility (WFF) revealed that the decision to privatize was not supported by cost comparison or program impact analyses. We recommended that NASA conduct appropriate analyses to determine whether the proposed privatization was financially and programmatically to the advantage of the

Government. The Agency concurred with our recommendation and agreed to implement appropriate cost comparison and program impact analyses.

Recent follow-up work performed at the WFF and GSFC revealed that the procurement action to privatize the Sounding Rocket Program is near completion, with contract award planned for early FY 1999. The selecting official will complete the appropriate cost and programmatic analyses as part of the final contract award process. These analyses will be presented to and discussed with the OIG to ensure they meet the intent of the open recommendation.

Travel Costs Inappropriately Charged to NASA

An audit showed that although JPL's travel policies and procedures were generally adequate, JPL did not follow or consistently apply them. As a result, JPL inappropriately charged NASA with travel costs of about \$660,000. We also identified opportunities to save costs of \$450,000. Through improved procedures and their enforcement, we estimated future cost savings of approximately \$3,100,000 were attainable through September 1998. NASA management concurred with the report's recommendations.

NASA has recovered \$660,000 from JPL. Actions on two of the report's seven recommendations remain open. NASA management will continue to work with JPL to close the remaining two recommendations.

Significant Matters Reported in Previous Semiannual Reports for Which Corrective Actions Are Still in Progress

Inequitable Allocation Method Resulted in NASA Paying a Disproportionate Share of Bid and Proposal Costs

JPL used an inequitable allocation method to distribute bid and proposal (B&P) costs that resulted in NASA paying a disproportionate share of B&P costs attributable to commercial and other non-U.S. Government work. We recommended that NASA (1) consider requesting that the contractor distribute the B&P costs equitably with a special allocation method and (2) evaluate the allowability of the contractor's FY 1994 and FY 1995 B&P costs (\$712,000) attributable to commercial and other non-Government work.

During this reporting period, NASA management provided the OIG a DCAA audit report that addressed the allowability of the contractor's B&P costs. Based on our review of the DCAA report, sufficient actions have not been taken to address the intent of recommendation one, which remains open. We will continue to work with management to resolve this issue.

INFRASTRUCTURE AND SUPPORT PROGRAM

More Than \$755,000 Savings Identified on Contractor-Leased Facilities

NASA's LeRC could be incurring excessive lease costs on two contrac-

tor-leased facilities in Ohio. One LeRC contractor submitted a proposal totaling \$164,000 for reconstruction work. Another contractor requested that NASA pay refurbishment costs of \$1 million for its leased facility. The auditors found no documentation to support the refurbishment costs of \$1 million for its leased facility. Subsequent bids for refurbishment received by the Center showed that the contractor overstated its request by \$591,626. We recommended that the NASA Procurement Office (1) deny the first contractor's request for reconstruction funds and (2) reevaluate the other contractor's request for refurbishment costs. Management concurred with the first recommendation and with the intent of the second recommendation.

NASA management continues working to resolve the second recommendation. During this reporting period, the contractor received an offer from the leasing management company for a settlement of \$250,000. NASA's legal office is reviewing that offer. We will continue to monitor management's progress to close this recommendation.

AERO-SPACE TECHNOLOGY PROGRAM

Savings Possible Through Improved Aircraft Management

We participated in a PCIE-sponsored audit of Federal civilian agency use of

Government aircraft. We identified several areas in which NASA could improve the management and control of its aircraft fleet (for example, using commercial aircraft to transport personnel in lieu of its own aircraft would save NASA \$5.8 million annually and selling seven of the eight aircraft having a market value of about \$10.6 million that was used exclusively for transporting personnel). We recommended that NASA tighten controls over transporting personnel on NASA aircraft, perform cost-effectiveness studies to justify the retention of aircraft assets, and reevaluate aircraft lease versus purchases options. Management fully or partially concurred with all recommendations.

Of the 19 recommendations, 2 remain open. One open recommendation is that NASA perform a cost-effectiveness analysis as required by OMB Circular A-76 to justify the retention of mission management aircraft. NASA management informed us that they intend to complete this analysis. We will monitor management's actions concerning this recommendation. The other open recommendation is that the Agency establish a system to record and report accurate data for the GSA's Federal Aircraft Management Information System. NASA management recently stated that they have established a system to provide the required data. We will review the system to determine whether it is sufficient.

Policy and Guidelines Needed to Ensure the Adequate Recovery of Facility Costs

We evaluated NASA's policy and procedures for recovering the costs associated with performing wind tunnel and other tests in its aeronautical research facilities for, or in cooperation with, non-NASA customers or partners. Several areas required management's attention, including: (1) making interim improvements to accounting systems; (2) removing impediments to the completion of the facility charging policy; (3) developing proper billing methods for the DoD Joint Strike Fighter Program; and (4) executing adequate agreements to protect NASA's interests. Management concurred with our recommendations.

Management has completed actions on five recommendations. The three remaining open recommendations are addressed to the Office of Aero-Space Technology and concern the development of a facility charging policy and criteria for approving nonreimbursable test agreements. Management recently reported that corrective actions have been completed on the open recommendations. We will review those actions to determine whether they are sufficient.

Significant Investigative Matters

INVESTIGATIVE STATISTICAL HIGHLIGHTS

APRIL 1, 1998 – SEPTEMBER 30, 1998

INVESTIGATIONS ACTIVITIES

Cases Opened	106
Cases Closed	96
Cases Pending	288
Hotline Complaints	34
Received	7
Referred to Audits or Investigations	17
Referred to Inspections	1
Referred to NASA Management	2
Referred to Other Agencies	7

INVESTIGATIONS IMPACT³

Indictments/Informations	25
Convictions/Pleas Bargains/Pretrial Diversion	18
Cases Referred for Prosecution	28
Cases Declined	9
Cases Referred to NASA Management for Action	4
Cases Referred to Other Agencies for Action	11
Suspensions/Debarments	
Individuals	2
Firms	4
Administrative Actions	
NASA Employees	5
Contractor Employees	22
Recoveries	\$44.8 million
Funds Put to Better Use	\$15.0 million
TOTAL Investigations Dollar Impact	\$59.8 million

Sections 5(a)(1) and (2) of the Inspector General Act, as amended, delineate those areas

to be reported in the semiannual report. Those areas include the identification of significant problems,

³ Includes results from joint investigations.

abuses, and deficiencies relating to the Agency's programs and operations and the recommendations made in the current reporting with respect to those issues. Section (5)(a)(4) specifies the inclusion of a summary of matters referred to prosecutive authorities and the prosecutions and convictions that have resulted.

OIG investigations originate from many sources. A majority of those investigations are predicated on information provided by NASA, contractor employees, or other Federal agencies. OIG investigators develop and investigate cases having significant financial and programmatic impact. The OIG continues to focus investigative resources on preventing and detecting fraud and waste in NASA's procurement activities. Efforts by the OIG to investigate cases with potentially significant impact have produced a consistent record of positive results.

The OIG has expanded its capability to investigate statutory violations in the Agency's electronic data processing and advanced technology programs. The incidents of computer intrusion are increasing. The CCD detects those intrusions, protects the integrity, and enhances the security of NASA's IT systems.

The following are summaries of significant OIG investigations during this reporting period.

COMPUTER INTRUSIONS/CRIMES

Canadian Hacker Arrested

A joint investigation by agents from the OIG, the Federal Bureau of Investigation (FBI), and the Canadian Royal Mounted Police resulted in the apprehension of a Canadian hacker. The hacker's illegal intrusion altered the network server that allows public access to the NASA World Wide Web home page, causing a denial of service. Estimated costs of the repairs to NASA are approximately \$70,000. Other victims included the National Oceanic and Atmospheric Administration, Hughes STX (a NASA contractor), and several universities and private web sites in Canada. The investigation continues.

E-mail Bomb Hacker Arrested

An OIG investigation resulted in the apprehension of a hacker who sent an "e-mail bomb" to a computer at MSFC. The "mail bomb" attack consisted of approximately 14,000 messages sent to an electronic Post Office that overloaded the NASA computer and illegally consumed its resources. On April 23, 1998, the hacker entered into an agreement with the U.S. District Court for the Northern District of Alabama, wherein he pled guilty to transmitting information to a NASA computer with the intention of causing damage to the computer system, in violation of Title 18, United States Code,

Section 1030(a)(5)(A). The hacker was ordered to comply with special conditions as imposed by the court for a probationary period of 12 months.

Former Contractor Employee Enters Guilty Plea

A joint OIG and U.S. Customs Service investigation, with the assistance of the contractor's computer security, resulted in a contractor employee pleading guilty to possession of child pornography. The contractor employee admitted that he knowingly downloaded the pornographic images from the Internet to numerous NASA computers at the NASA Center. Sentencing is pending.

Former NASA Employee Enters Guilty Plea

An OIG investigation, with the assistance of a contractor's criminal investigators, resulted in a former NASA Center employee entering a guilty plea to possession of child pornography. The former employee admitted that he knowingly downloaded the pornographic images from the Internet to numerous NASA computers at the Center. Sentencing is pending.

PROCUREMENT

\$43.0 Million Recovered From Contractor's Retroactive Refund

A joint OIG investigation with the Defense Contract Management Command (DCMC) resulted in the Government's recovery of \$43 million from a contractor. The investigation stemmed from a recent State court ruling making defense contractors eligible to receive retroactive refunds from the State for sales and use taxes paid on Federal Government contracts. The contractor had received a refund of approximately \$52 million. DCMC negotiated with the contractor to settle the sales and tax refund issues.

BRIBERY/KICKBACKS

Contractor Official Pays More Than \$32,000 in Kickbacks

A joint OIG, Defense Criminal Investigative Service (DCIS), and Air Force Office of Special Investigations (AFOSI) investigation disclosed that a subcontractor official, acting on behalf of her company, paid more than \$32,000 in kickbacks to a prime contractor's procurement manager. The prime contractor serves as a precision machine shop that fabricates products for use on the International Space Station. In return for the kick-

backs, the procurement manager awarded the subcontractor contracts.

The subcontractor official entered a guilty plea to a kickback charge on behalf of the company. The subcontractor official charged entered into a pretrial diversion agreement for her role in this matter. Sentencing is pending.

Contractor Employee Accepts Kickbacks of More Than \$16,000

A joint OIG and Internal Revenue Service investigation resulted in a former prime contractor employee being charged with soliciting kickbacks from companies seeking NASA subcontracts in support of the Space Shuttle. The former contractor employee allegedly accepted kickbacks in excess of \$16,000. Resolution of the charge is pending.

PRODUCT SUBSTITUTION

NASA Contractor Indicted for Improper Testing and Falsifying Test Results

A joint OIG, DCIS, and the Department of Transportation (DOT) OIG investigation resulted in the indictment of a contractor on charges of conspiracy and nine counts of false statements. Two company officials, the president/quality control manager and the vice-president/general manager, were indicted on one count of conspiracy to make false statements and nine counts of submitting false statements. The vice-president was

also indicted on two counts of obstruction of justice.

The company is a contractor to NASA and DoD. The indictments stemmed from an investigation that disclosed that, between 1981 and March 1997, the contractor had improperly heat treated, aged, and falsified quality testing on metal parts. The parts are used on NASA's Space Shuttle and International Space Station and in military and commercial aircraft and missile applications. Resolution of the charges is pending.

NASA Contractor Enters Into \$547,000 Civil Settlement Agreement

An OIG, National Science Foundation OIG, and DCIS investigation resulted in a contractor official signing a release and settlement agreement in August 1998, in connection with Government contracts. The contractor's contracts were part of the Small Business Innovative Research (SBIR) program. As part of the settlement, the contractor agreed to pay the U.S. Government \$547,000.

The Government initiated an investigation into alleged false claims presented by the contractor under the SBIR program and other Federal grants and contracts between 1991 and August 1998. The contractor has denied any wrongdoing but entered into the agreement to avoid litigation and to resolve the outstanding issues.

EMPLOYEE MISCONDUCT

Former NASA Employee Enters Guilty Plea

An OIG investigation resulted in a former NASA Center employee being charged with falsifying her NASA time cards between July 1997 and March 1998. The former employee entered a guilty plea to one count of theft of Government funds. In pleading guilty, she admitted to falsifying her time cards by adding hours that she had not worked. As a result, the former employee received approximately \$12,500 to which she was not entitled. Sentencing is pending.

Consultant Sentenced in Theft of Proposal Information

An OIG investigation, with the assistance of and local law enforcement

officials, resulted in a former consultant for a prospective NASA contractor being sentenced on charges of receiving stolen property. The charges stemmed from the former consultant's attempt to sell one competing company's proposal information to another. The incident occurred during competition for a contract at a NASA Center.

The consultant's sentencing followed his plea of guilty to a charge of receiving stolen property, a felony. He was sentenced to serve 5 months in custody. Another defendant in the case pled no contest and was sentenced to perform 400 hours of community service and fined \$1,000.

Updates on Selected Cases Reported in Previous Semiannual Reports

COMPUTER INTRUSIONS/CRIMES

BRIBERY/KICKBACKS

EMPLOYEE MISCONDUCT

PROCUREMENT

PRODUCT SUBSTITUTION

COMPUTER INTRUSIONS/CRIMES

Former Contractor Employee Arrested and Charged in Scheme to Use a Government Computer to Solicit Sex With a Minor

Previously Reported: A joint investigation by the OIG and the FBI resulted in the arrest of a former contractor employee on charges that he traveled across State lines to engage in sexual activity with a minor. The investigation determined that the employee used a NASA computer to solicit sex from an undercover investigator believing that the investigator was a minor female.

Update: Following a trial by jury, the individual was convicted and sentenced to serve 18 months in jail, plus 42 months of supervised release, and ordered to pay a \$100 special assessment.

BRIBERY/KICKBACKS

Two Indicted in Kickback Scheme

Previously Reported: A joint investigation by the OIG, DCIS, and AFOSI resulted in an indictment of a NASA contractor's former buyer and the owner of a subcontractor company. The indictment charged them with conspiracy, false claim, and kickbacks. The investigation disclosed that the former buyer solicited and received kickbacks from the subcontractor. The subcontractor disguised some of the kickbacks as "ghost" employees. The individuals conspired to inflate invoices billed to the Government through the contract valued at \$700,000. The contractor received about \$124,216 as a result of the false invoices.

Update: The buyer pled guilty and was sentenced to 3 years of supervised probation, ordered to pay \$29,996 in restitution, fined \$1,500, and assessed a \$50 special assessment. Following a jury trial, the owner of the subcontractor company was found guilty of conspiracy and multiple counts of submitting false claims to the Government. He was sentenced to 12 months of confinement, placed on 3 years of supervised release, ordered to make \$29,996 in restitution, and assessed a \$750 special assessment.

EMPLOYEE MISCONDUCT

Contractor Charged With Embezzlement

Previously Reported: Following a joint investigation by the OIG, Department of Labor OIG, U.S. Postal Inspection Service, AFOSI, and the Navy Criminal Investigative Service, the president of a company was charged with embezzling at least \$450,000 from a company's profit sharing plan. The company provided computer software development to NASA under contracts valued at more than \$13.8 million, as well as to other agencies. Some of the embezzled funds were paid to the company by the agencies as costs under the contracts. The defendant pled guilty. Update: The defendant was sentenced to 1 year in prison.

PROCUREMENT

Company Owner Charged With Submitting False Statements to Maintain Eligibility in Small Business Program

Previously Reported: A joint investigation by the NASA OIG and the DOT and Department of the Treasury OIG's resulted in an indictment against a company's owner. The indictment alleged that the owner dishonestly maintained his company's eligibility to receive support through a Small Business Administration (SBA) program.

The SBA 8(a) program is designed to help economically and socially disadvantaged firms obtain Government contracts that have been "set aside" for the 8(a) firms by Government agencies. The indictment charged the company owner with submitting a series of false personal financial statements to the Government to maintain the company's eligibility. He allegedly filed statements that falsely reported his true net personal worth and the extent of his personal assets. The owner allegedly failed to report approximately \$500,000 he had on deposit in a foreign bank account.

Update: Following a trial by jury, the company owner was found not guilty.

Updates on Selected Cases Reported in Previous Semiannual Reports

PRODUCT SUBSTITUTION

Criminal Charges Filed Against NASA Contractor and Nine Individuals for False Certification of Microelectronic Devices

Previously Reported: A joint investigation of a NASA/DoD contractor by the OIG and DCIS resulted in an indictment against the contractor and five of its employees. The indictment charged them with conspiracy, false statements, and false claims. The indictment alleged that they falsely certified they had performed tests of microelectronic devices in conformance with the Government contract specifications. This practice lasted over a 9-year period. The devices had application in a number of significant NASA and military programs, including the Space Shuttle, the International Space Station, the Hubble Space Telescope, F-14 aircraft, and submarines.

A separate indictment alleged that a Government quality assurance representative falsely certified that he had witnessed the tests at the contractor site. Three other employees, who were not charged in the indictment, had earlier agreed to plead guilty to causing the filing of false statements with the Government. Charges against another employee were dropped.

Update: The contractor entered a guilty plea to conspiring to defraud the Government. The contractor was sentenced to 5 years of probation and

fined \$500,000, as well as \$5,400 in court costs. Two company officials were found not guilty.

The former quality assurance representative pled guilty to submitting a false certification. In pleading guilty, the quality assurance representative admitted that on five occasions he falsely certified that he had witnessed the contractor's testing. The quality assurance representative was sentenced to 3 years of probation, ordered to perform 120 hours of community service, ordered to pay \$1,670 in restitution, and fined a \$25 special assessment.

Sentencing is pending for the other three individuals.

Two Contractors and Four Employees Indicted

Previously Reported: A joint investigation by the OIG, DCIS, the Army Criminal Investigative Command, and the Department of Commerce OIG, with assistance by NASA engineers and employees of the Defense Contract Management Command, resulted in an indictment of four employees of two related companies. The defendants were charged with conspiracy, making false statements to the Government, and mail fraud. In a superseding indictment, the two contractors were also charged with similar offenses, and the earlier charges against the employees were restated.

The investigation disclosed that the contractor failed to manufacture and test electronic solid-state devices according to the specifications of Government contracts. The indictment alleged that the defendants omitted, altered, or falsified certain required tests and inspections. The indictment also charged that the defendants acquired inexpensive parts

from commercial suppliers and Government surplus auctions and used these parts to fill orders for high-reliability parts.

Update: Following a defense argument of prosecutorial misconduct, a Federal court ruled in favor of the defense and dismissed the case with prejudice.

Inspections, Administrative Investigations, and Assessments

STATISTICAL HIGHLIGHTS

APRIL 1, 1998 – SEPTEMBER 30, 1998

ADMINISTRATIVE INVESTIGATIONS ACTIVITIES

Cases Opened	51
Cases Closed	40
Cases Pending	77
Referred to Management	16
Closed	6
Pending	10
Referred to Investigations	1

INSPECTIONS/ASSESSMENTS ACTIVITIES

Activities Opened	10
Activities Closed	5
Activities Pending	5
Management Referral Letters/Alerts	4

The Office of Inspections, Administrative Investigations, and Assessments (IAIA) staff provides timely and constructive evaluations of Agency programs, projects, and organizations. The staff conducts comprehensive assessments of policy, processes, structures, and operations to determine whether resources are effectively managed and applied toward accomplishing NASA's missions. IAIA projects also include focused reviews of specific management issues or plans. Typically, IAIA actions are "rapid responses," usually completed within 180 days.

During this reporting period, IAIA staff continued its role in providing expanded technical and consultation support to the other OIG disciplines: audits, criminal investigations, and partnerships and alliances. The staff, many with specialized backgrounds, provides advice and insight to OIG colleagues on information systems, information security, engineering, research and technology, and acquisition management. The staff also reviewed proposed and revised NASA policy and regulatory guidance in the areas of program and project management, safety and mission assurance, information systems, security, logistics, and acquisitions.

ADMINISTRATIVE INVESTIGATIONS

The IAIA staff also conducts administrative investigations (inquiries involving noncriminal allegations or administrative wrongdoing).

Investigations in this category include misuse of Government equipment and other resources, employee violations of the Standards of Conduct, and other forms of misconduct. We investigated 51 new reports of suspected or alleged misconduct during this period. In addition, 66 administrative investigations were carried over from the previous reporting period. Of these 117 cases, we closed 14.

INSPECTIONS AND ASSESSMENTS

Significant inspection and assessment activities during this reporting period included the following.

X-33 Program Security

We issued a final report on our inspection of the X-33 Advanced Technology Demonstrator security measures. In general, we believe that overall security has not been fully addressed for the X-33 demonstrator. Management concurred in only two of the five recommendations we made to improve various aspects of program security. We formally requested that management reconsider its position on the three recommendations with which it did not concur and are awaiting NASA's response.

Property Disposal Outsourcing

The IAIA assessed a Center's pilot program to outsource Government property disposal activities. Our report, issued in July 1998, recommended improvements to the pilot program. Specifically, we recommended that Center management address noncompliance issues, submit a waiver request, perform a management assessment, coordinate legal opinions, and provide training. Management generally concurred with our recommendations and is implementing improvements.

Lewis Security Management

In January 1998, an IAIA team evaluated an information technology security threat/risk assessment issue at LeRC. During this evaluation, the team also identified several other security concerns that were subsequently addressed. With outstanding cooperation from LeRC management, we issued a report with 17 recommendations to improve information and physical security at LeRC. Management was fully responsive to 14 of those recommendations.

NASA's Financial Assistance to Foreign Visitors

An IAIA team evaluated NASA's payments to Russian cosmonauts and Ukrainian payload specialists. The team concluded that NASA did not have a formal, documented policy or

procedure to address the payment of salary and living expenses to those cosmonauts and specialists. Our report, issued in June 1998, also identified concerns regarding process controls and the calculation of payments. Management agreed with two of the four report recommendations and reported that they would implement a Corrective Action Response, documenting the International Partner invitation and subsistence process, through its ISO 9000 process.

Enhancing Compatibility for Long-Duration Space Flight Crews

An IAIA review of NASA's selection process for long-duration space flight crews concluded that psychological testing is only conducted during the initial evaluations. Our June 1998 report contained three recommendations intended to enhance the compatibility of crew members selected for long-duration flights. Management partially concurred with the recommendations and reported that they are developing an integrated program to manage flight crew psychological interactions.

ONGOING ACTIVITIES

Other IAIA activities during the report period included:

- We are currently performing an assessment of Dryden Flight Research Center's response to a computer penetration, resulting system shutdown, and follow-on

corrective measures. Our goal is to capture and share lessons learned and best practices with the NASA information security community.

- We previously issued an alert to Johnson Space Center (JSC) management regarding our concerns about the cost-benefit analysis that had been conducted of JSC chartered flights between the United States and Russia. The IAIA has closely monitored the subsequent charter trial period and is drafting a report on our observations and analysis.
- An IAIA team recently visited the Goldstone facility, located in California's Mojave Desert, to assess the facility's management of Government vehicles. The team's findings and recommendations will be conveyed to NASA in a management alert memorandum.
- Our specialists are reviewing NASA's application of a software-based encryption product and its associated security management infrastructure, as well as attendant costs. We will convey our findings and recommendations to management in the near future.
- We recently completed a review of aircraft disposal processing at the WFF. A memorandum detailing our findings and recommendations will be transmitted to NASA.

Partnerships and Alliances

ASSIGNMENTS INITIATED DURING THIS REPORTING PERIOD

STATUS OF PREVIOUSLY REPORTED ASSIGNMENTS

NASA continues to expand its partnership and alliance activities. These activities will play a vital role in helping the Agency achieve its mission to advance scientific knowledge, explore space, and conduct aeronautics and space research. For more than 75 years, NASA and its predecessor organization have worked collaboratively with other Federal and State agencies, industry, and educational institutions to effectively conduct research and disseminate information. As directed and recommended by Congress, NASA's advisory committees, the National Performance Review, and others, the Agency is seeking mechanisms and processes to work with other entities to combine resources, technical knowledge and capabilities, and facilities to provide optimal technological and scientific return within available funding. This strategy was integrated into the NASA Strategic Plan and the plans of the Agency's four Strategic Enterprises.

Given the importance of partnerships and alliances to the Agency, the OIG established a Partnership and Alliances program to address such relationships. The overall objectives of this program are to:

- Assist NASA management, where appropriate, to foster and implement both internal and external partnership and alliance initiatives through the identification of best practices or vulnerabilities
- Assess the effectiveness of partnership and alliance initiatives and programs
- Establish partnership arrangements with OIG's of other agencies that are working

with NASA management to assess programmatic issues and results

The Partnership and Alliances program gives the OIG the opportunity to provide proactive assistance and information to NASA managers by identifying opportunities to foster, expand, and enhance partnership activities. Using available OIG resources and partnering with other OIGs on issues of mutual concern and interest, this program will be carried out in various ways (audit, inspection, study, review, and so on) and supplemented, as needed, to enable a thorough analysis of the issue, program, or function being examined.

ASSIGNMENTS INITIATED DURING THIS REPORTING PERIOD

Review of National Polar-orbiting Operational Environmental Satellite System (NPOESS) Transfer and Requirements Development Technology

NPOESS will converge the Department of Commerce (DoC) POES Program with the DoD Defense Meteorological Satellite Program. The first converged spacecraft must be available for launch in 2007. NASA currently manages the design, development, and launch of the POES spacecraft for DoC. Under NPOESS, NASA will be responsible for technology transition. NASA will also provide some instruments for NPOESS and will rely on some

NPOESS data for global change scientific research.

Critical decisions will continue to be made over the next few years that will shape system requirements and commit the Government to development and production. The objectives of this review will be to evaluate the technology transition and requirements development process. This will be a joint DoC OIG/NASA OIG review. The DoC OIG will lead the review.

Review of the Advanced General Aviation Transport Experiments

AGATE is a Government-industry-university partnership to revitalize the U.S. general aviation industry. General aviation—defined as all flight except the military services and commercial airlines—has fallen from its economic heights in the late 1970's to record lows because of outdated technologies, regulatory restrictions, liability burdens, and increasing costs.

AGATE focuses on the development of new general aviation technologies to improve passenger safety, comfort, aircraft performance, and efficiency including improved cockpit systems; better weather information for flight and landing systems; on-board systems to support decision making during emergencies; traffic avoidance systems; and improved crash worthiness. Our review will examine NASA's partnering activities with industry and universities, AGATE's results and achievements to date, and AGATE's contributions to aviation safety.

Review of the Advanced Air Transportation Technology Program

The Advanced Air Transportation Technology (AATT) program is one subelement of the Aviation System Capacity (ASC) program managed by the Office of Aero-Space Technology. The goal of the ASC program is to develop high-payoff technologies in cooperation with the Federal Aviation Administration (FAA) and the U.S. aeronautics industry. These technologies should benefit the civil aviation industry and the flying public by increasing safety, reducing civil aircraft impact on the environment, increasing the capacity of the airspace system, and ensuring that new technology development is compatible with those primary objectives.

The primary objective of the AATT is to fully explore the possibilities of the "free flight" concept. This concept envisions a safe and efficient flight operating capability under instrument flight rules in which the operators (aircraft pilots) have the freedom to select their paths and speed in real time. Restrictions are imposed only to ensure separation, preclude exceeding airport capacity, prevent unauthorized flight through special airspace, and ensure safety. AATT products will enable substantial increases in the effectiveness of national and global air transportation systems. These increases will be achieved by developing and testing automation aids that can assist in the decision-making process among pilots, air traffic controllers, and dispatchers. Our review is

designed to determine whether (1) program objectives, milestones, and performance measures are being achieved, (2) the partnering relationship with industry is effective, and (3) air traffic management research funds are used effectively.

STATUS OF PREVIOUSLY REPORTED ASSIGNMENTS

Review of NASA's New Technology Reporting

Our review determined that the new technology reporting (NTR) by large business contractors lacked Agencywide direction and management support and failed to fully support NASA's commercial technology mission. Also, inaccuracies in the NTR data eroded management's ability to make realistic program decisions.

As a result of our review report issued in September 1996, NASA management has spent considerable time reassessing the NTR process. We are encouraged that management's efforts will greatly improve this vital program. During this reporting period, management (1) reminded officials in charge of the importance of the NTR process, (2) established reporting goals for FY 1999 and FY 2000, (3) further defined the procurement office's role in the NTR process, (4) revised and improved documentation of the process for collecting and processing new technology reports, and (5) refined a NTR training module for program and project management staff. With these actions,

all open recommendations were closed in August 1998.

Review of NASA's Use of Audit Services Provided by the Defense Contract Audit Agency

DCAA provides contract audit and advisory services to NASA Headquarters and Center procurement activities. During FY 1997, DCAA services cost \$16.5 million for about 2,500 reports related to NASA contracts. In general, NASA procurement personnel believed DCAA services and products improved significantly as a result of DCAA's initiatives to enhance its customer-oriented approach.

We identified improvements needed in NASA's use of DCAA services, as well as NASA's oversight of the use and benefits of DCAA services. We also recognized best practices disclosed during our review regarding procedures used to request DCAA services and specific details in audit reports; the benefits derived by NASA from an assigned full-time, onsite DCAA procurement liaison auditor; and training to assist personnel performing decentralized closeout procedures, especially administrative or quick closeouts.

The recommended improvements in NASA's use and oversight of DCAA's services included coordinating with DCAA the reporting preferences of contracting officers and the level of liaison services needed at each NASA Center, emphasizing the contracting officer's responsibility to coordinate

with DCAA results of negotiations, adopting DoD's Integrated Product Team concept for acquisitions on a case-by-case basis, evaluating specific actions to improve NASA's contract closeout activities, developing objective metrics or performance measurements, and improving NASA systems to track all DCAA reports.

Management was generally responsive to our recommendations. We did request reconsideration of one recommendation and will keep all recommendations open pending the completion of planned corrective actions.

Review of NASA's Single Process Initiative/Block Change Process Improvements

The Government and Industry Quality Liaison Panel conceived the Single Process Initiative (SPI)/Block Change, also referred to as the common process initiative. NASA, DoD, and the FAA endorse this initiative, which enables contractors to propose single processes that would meet the needs of multiple Government customers. The intent of SPI is to reduce contractor operating costs and achieve cost, schedule, and performance benefits for both the contractor and the Government. The review addresses NASA's involvement and partnering with DoD, the application of SPI at NASA Centers, achievements in reducing contract costs, and contractor participation.

We found inconsistent implementation across Centers, minimal cost

savings, and inadequate resources for staffing SPI implementation. We recommended that: (1) the Chief Engineer reassess NASA's continued participation in SPI, (2) adequate funding be provided for implementation, (3) internal guidelines be issued or clarified, (4) data keeping be centralized and uniform within NASA, and (5) NASA resolve with DoD a number of issues outside the control of NASA but that directly impact NASA's implementation of SPI. In general, management concurred with the report's recommendations.

We issued the final report on August 17, 1998. Of the report's seven recommendations, we consider two to be closed. The remaining five recommendations are open pending management's implementation of proposed corrective actions.

Review of the Aeronautics and Astronautics Coordinating Board Implementation Results

The Aeronautics and Astronautics Coordinating Board (AACB) is a joint DoD-NASA senior management review and advisory body. It was chartered by interagency agreement in 1960, in part, to help ensure the effective use of U.S. scientific and engineering resources, avoid unnecessary duplication of effort, facilities, and equipment, and reduce costs.

During 1995 and 1996, the AACB undertook an extensive effort to identify opportunities to further increase cooperation. This initiative developed 34 recommendations having the potential to effect savings and increase efficiency and effectiveness.

Our review concluded that the AACB Cooperation Initiative has been a successful partnership, resulting in significant savings for both agencies. However, the implementation of approximately half of the recommendations remains incomplete. The remaining open recommendations offer additional potential opportunities to improve operations and reduce costs.

We recommended that the NASA AACB co-chair (the NASA Deputy Administrator) and the DoD co-chair plan the implementation of the open recommendations and ensure funding for implementation. The NASA Deputy Administrator agreed to pursue implementation, but stated that funding would depend on NASA's priorities and the overall level of Agency funding available. The DoD Deputy Assistant Secretary of Defense (C3ISR and Space Systems), Office of the Assistant Secretary of Defense, agreed that the open recommendations should be reviewed, updated, and implemented where appropriate.

Review of NASA-FAA Research and Development Coordination Efforts

The Airline Deregulation Act of 1978 has provided a significant growth in air travel, placing heavy demands on the National Airspace System (NAS). Insufficient capacity, limited access, and operating restrictions are cited as contributors to excessive operating cost and decreased efficiency for NAS users. The FAA is collaborating with the aviation industry and NASA to develop, validate, and improve the NAS. The White House Commission on Aviation Safety and Security Report, dated February 12, 1997, included a recommendation that “. . . the FAA should develop a revised NAS modernization plan . . . that will set a goal of the modernized system being fully operational nationwide by the year 2005.”

Together, the FAA and NASA use their technical expertise to develop advanced air traffic decision support tools, improve training efficiency and enhance safety through human factors

research, and develop and test advanced communications, navigation, and surveillance systems. NASA and the FAA have a long history of working together on air traffic management systems and aviation safety research to enhance the capacity, efficiency, and safety of the NAS. These collaborative research activities were agreed on and documented.

The NASA OIG and the DOT OIG have formed a joint review team to evaluate the coordination efforts between NASA and the FAA on aviation safety and air traffic management research for the period FY 1997 to the present. The team selected four NASA and FAA joint projects for both aviation safety and air traffic management to evaluate the effectiveness of the coordination process. A single final report will be issued in early FY 1999. The report identifies several actions in which NASA and the FAA can enhance their coordination efforts to meet the established goals and help ensure that agency resources are used in the most cost-effective manner.

Legislation, Regulations, and Legal Matters

LEGISLATION

REGULATIONS

OTHER

Section 4(a)(2) of the Inspector General Act, as amended, establishes the Inspector General's responsibility to review existing and proposed legislation and regulations relating to the programs and operation of the Agency and to make recommendations concerning their impact on those programs. The OIG legal staff provides advice and assistance on a variety of legal issues and matters relating to the OIG's reviews of Agency programs and operations. The OIG Attorney-Advisor acts as the central official for the review and coordination of all legislation, regulations, Freedom of Information Act (FOIA) requests, and congressional and legal matters requiring OIG attention. The OIG legal staff provides advice and assistance to senior OIG management, staff auditors, inspectors, and investigators and serves as counsel in administrative litigation in which the OIG is a party.

LEGISLATION

Inspector General Act Amendments of 1998 (S. 2167)

This bill would create a 9-year term for statutory Inspectors General. In addition, it would require that an Inspector General's personnel, training, travel, and contracting practices be reviewed by an outside entity every 3 years. The bill would replace the current semiannual report to Congress with an annual report. Finally, certain smaller OIG's would be consolidated into larger OIG's of different agencies. This latter provision may dilute the expertise and insights into the smaller agencies, as OIG staffs are absorbed by larger organizations with differing priorities.

Draft Aircraft Safety Act of 1998

We reviewed a draft proposal to enhance prosecution for the wrongful substitution of parts and the provision of substandard parts to aircraft. We recommended that the proposal be expanded to cover spacecraft as well. The General Counsel's office assisted in drafting a definition of "space vehicle." The bill would cover not only spacecraft such as the Space Shuttle, but also instruments such as the Hubble Space Telescope, communications satellites, and the International Space Station.

REGULATIONS

During this reporting period, the OIG reviewed 21 Agency regulations.

NASA Policy Directive (NPD) 3713.6N (Proposed), Delegation of Authority to Act in Matters Pertaining to Discrimination

The current version of NPD 3713.6, dated July 15, 1993, contains important language retaining for the Administrator the sole authority to resolve individual and class complaints and to render final Agency decisions in cases emanating from the OIG. The retention of these responsibilities by the Administrator represented a thoughtful compromise, which balances the statutorily mandated independence of the Inspector General (including the Inspector General's exclusive authority in personnel matters pertaining to the OIG) against the Administrator's ultimate responsibility for NASA's Equal

Opportunity Programs. The proposed regulation omits this compromise and delegates the responsibility to a subordinate officer. The OIG did not concur in the issuance of this proposal, as the delegation would constitute interference by a subordinate officer with the Inspector General's independent personnel authority.

NPD 2810, Security and Information Technology

This is the second occasion in which we did not concur in this proposed directive. The proposal continues a fragmented approach to IT security responsibilities, which we have consistently opposed. In addition, the proposal fails to reflect what we considered an agreement between the Inspector General and the Agency CIO on specific language on the coordination of responsibilities concerning computer-related misconduct.

OTHER

JPL Contract Executed

During this reporting period, the OIG has continued to work collaboratively with NASA management to influence the direction of the renewal of the contract with the California Institute of Technology (Caltech) for the operation of JPL. We raised 10 issues for negotiation, including access to information and personnel for the OIG, the allowability of environmental remediation costs, the transfer of costs between task orders, the allowability of litigation costs, Caltech's

dependent tuition benefit, Year 2000 compliance, and automated information security.

NASA accepted a number of our suggestions, including reform of the dependent tuition benefit. The JPL contract was renewed. However, greater oversight of JPL remains a concern of the OIG. The Inspector General has requested that the Administrator seek modification of the JPL contract, including special access provisions for the OIG, as well as application of IT policy issuances to JPL. The NASA CIO has agreed to include the application of certain IT policies to the JPL contract.

Medical Standards

We have examined legal issues associated with applying medical and physical standards to special agents. This tasking results from our Memorandum of Understanding (MOU) with the Department of Justice, under which our special agents are now specially deputized U.S. Marshals. The MOU requires periodic firearms recertification and physical conditioning.

GAO Survey

We provided data regarding OIG organizational structure, staffing, and operational issues to the General Accounting Office (GAO). A number of congressional oversight committees requested that GAO compile this

information from the Federal Inspectors General.

Information Technology Security Program Review

We commented on this program review performed by the Agency. While we are pleased that the review team recognized the need for NASA to focus its attention on IT security, NASA lost an opportunity to end its fragmented approach to IT security. The Agency review justifies maintaining the *status quo*, in part, by referencing other organizations that do not combine the classified and unclassified assurance function under one unit. NASA's decentralized approach to IT security reflects a historical evolution that is often personality driven rather than mission focused.

We also criticized the report for focusing on issues that we consider resolved by NASA directive, rather than focusing NASA's attention on protecting critical infrastructures. These issues pertain to the jurisdiction of the OIG Computer Crimes Division. While we consider the issue of jurisdiction resolved, we believe that a misunderstanding of our investigative authority has led to failure by the Centers to report known intrusions. We are attempting to correct this misconception and to remedy the flow of information to the OIG. The Administrator addressed our concerns by directing the Centers to report felonious intrusions to the OIG.

Freedom of Information Act Matters

During this reporting period, the OIG processed 10 FOIA requests. We received no appeals of initial determinations during this timeframe.

Subpoenas

During the reporting period, the Inspector General issued 39 subpoenas. No enforcement actions were filed.

OIG Legal Newsletter

The legal staff has provided information in the newsletter on the Privacy Act, advice of rights in administrative misconduct investigations, and the exercise of due care in conducting audits.

Cooperative Activities, Outreach, and Other Activities

COOPERATIVE ACTIVITIES

OUTREACH

TRAINING

COOPERATIVE ACTIVITIES

Our cooperative activities advise NASA management of areas that, if not addressed, could become problematical. These activities also provide an opportunity to work proactively with management to resolve these issues. Through our outreach program, the OIG disseminates information about our programs to enhance the public knowledge of our mission and our commitment to improving the effectiveness of Government programs.

AUDIT

Suggested Improvements Made to the Source Evaluation Board for the Joint Base Operations and Support Contract

The Joint Base Operations and Support Contract is an effort between NASA and the U.S. Air Force to consolidate support services at the Kennedy Space Center, Cape Canaveral Air Station, and Patrick Air Force Base. We conducted a survey of the proposed consolidated procurement to determine whether the contract (1) was awarded timely, (2) would satisfy joint requirements, and (3) was in the Government's best interests. We presented the results of the survey to the procurement's Source Evaluation Board and included suggestions that the board (1) perform a thorough price analysis to determine whether adequate price competition was achieved, (2) assure that contingency strike plans protect the Government against potential work stoppage and labor strikes, and (3) establish a process prior to contract award for using performance metrics in award fee determinations. The Source Evaluation Board generally concurred with the suggestions made, and corrective actions are planned or under way.

Joint NASA-OIG Working Group Supports the Implementation of the Integrated Financial Management System

To proactively support the Agency in developing its integrated financial management system, the OIG entered into an MOU with NASA's CFO and CIO. Under the MOU, the OIG participates in the Security and Internal Control Working Group (SICWG). The SICWG was formed to address security and internal control issues related to the configuration and implementation of the integrated financial management system. Specifically, this group will continuously assess the IFMP approach to security and internal controls in concert with the appropriate NASA functional management policies. This group will also help resolve any security and internal control issues identified during the independent verification and validation process. This working group is a unique opportunity for the CFO, the CIO, the OIG, and the independent contractor who is performing verification and validation of the integrated financial management system to ensure that user requirements are fulfilled in a secure environment characterized by a sound internal control structure. The SICWG is currently monitoring Center data conversion activities to ensure they are effectively controlled and that the contractor follows NASA's usual security architecture in its implementation of the integrated financial management system. The SICWG is also evaluating the adequacy of testing procedures for the new system.

Management Controls and Operating Procedures Needed for the Planned IFMP Travel Module

As part of our continuing audit coverage of NASA's IFMP, we reviewed the planned travel module. We found that NASA had a significant amount of work to complete prior to testing and implementation to ensure that the software worked effectively, and the travel module met GAO and Joint Financial Management Improvement Program requirements for management control and efficiency. Specifically, attention was needed for management controls (system controls such as electronic signatures, edits, and security, supervisory review procedures, and postpayment statistical sampling procedures) and operating procedures (expanded use of the NASA travel contractor and permanent change of station travel). We recommended specific management controls and operating procedures that needed to be implemented in each of these areas. The Associate Director for the Office of Chief Financial Officer referred our recommendations to the IFMP SICWG for implementation.

Improvements Recommended for IFMP Internal Controls Assessment Tool

OIG auditors evaluated the IFMP internal control assessment tool prepared by the contractor that performs the independent verification and validation for the project. The assessment tool will be used to review the final business process reengineering maps

and IFMP general and application controls following system design and configuration. Our evaluation resulted in several suggestions to improve the control objectives for the various business processes. We presented our suggestions for improving the assessment tool to both the SICWG and the contractor.

Management of NASA Sensitive Equipment Could Be Improved

During a survey of the overall management of NASA equipment, the OIG identified some improvements in how sensitive equipment items used by NASA employees are managed. Sensitive equipment items are those items that, because of their actual loss rates or potential for loss or theft, are required to be managed under special procedures. NASA equipment management procedures list equipment categories that must be managed as sensitive items; however, individual NASA Centers can add any items or categories, based on losses or other factors, that they believe are warranted.

In reviewing this area, we determined that policy makers were not evaluating the various items managed as sensitive by all the Centers at the time they updated the sensitive items list. This evaluation could ensure that the lists were comprehensive and were not considering noncontrolled, high-loss-rate, low-value items. We recommended that: (1) the list be reviewed to include evaluating sensitive items controlled by all the

Centers and on-site contractors for possible inclusion; (2) management analyze reported losses of noncontrolled equipment to identify those items that should be managed as sensitive; and (3) management determine how data collection and reporting on noncontrolled equipment losses could be improved to identify high losses and permit consideration in future decisions on sensitive item lists.

Management officials concurred with the recommendations and took corrective actions that should improve this process.

Internal Controls Needed to Improve the Management of Hazardous Waste

An audit survey found that LeRC needs to improve internal controls over its hazardous waste manifesting process to ensure full regulatory compliance and to minimize any future liability when disposing of hazardous waste. Preparation and authorization of the manifest form, file documentation, and training did not comply with Environmental Protection Agency (EPA) and DOT requirements. In addition, the support service contractor responsible for program compliance was not complying with contract provisions, and LeRC was not adequately monitoring and overseeing the contractor. Center management has agreed to implement the necessary internal controls.

INSPECTIONS, ADMINISTRATIVE INVESTIGATIONS, AND ASSESSMENTS

As a result of our administrative investigation, the coordinator for a NASA installation's Voluntary Leave Transfer Program implemented a series of program improvements to tighten process controls and ensure that participating employees fully understand program requirements. We are now working with the Agency to share lessons learned with other NASA human resource offices.

Based on a series of referrals from NASA OIG auditors, IAIA staff worked with NASA management to handle employee misuse of the International Merchant Purchase Authorization Card (IMPAC) program. As a result of our efforts with management, employees who had improperly used cards were counseled, were disciplined, or had their IMPAC card authority revoked.

Although an investigation disclosed no criminal nor administrative wrongdoing on the part of a contracting officer who delivered the résumé of a personal acquaintance to a contractor over which the contracting officer had oversight, we worked with NASA's Office of Procurement to advise NASA contracting officers and specialists to avoid the appearance of bias and partiality in such cases.

OUTREACH

AUDIT

NASA Directives and Management Controls/Audit Annual Conference

Russell A. Rau, AIGA, made a presentation titled "Audit Initiatives" at the NASA Directives and Management Controls/Audit Annual Conference, held at Ames Research Center, California. Rau gave an overview of the audit planning, execution, and reporting processes. He discussed recent audit management initiatives (including the development of internal audit policy and style guidance and the audit performance plan), recent audit oversight initiatives (including the oversight of DCAA audits, A-133 audits, and financial statement audits), and the development of an internal quality control review program. Rau concluded with a discussion of areas of audit emphasis: information technology, Enterprise management, procurement, program/project management, safety, and environmental management.

Audit IT Mission Presentation

The OIG Program Director, IT Programs, addressed a meeting of NASA's CIO's hosted by the JPL CIO. The Program Director described the IT missions of the OIG's Computer Crimes Division (CCD), the IT Security Inspections and Assessments Group, the Information Assurance Directorate, and the IT Programs

Cooperative Activities, Outreach, and Other Activities

Directorate. He also described their ongoing and planned IT activities.

INVESTIGATIONS

ATPO/CCD Outreach Activities

CCD representatives made presentations at a number of conferences and seminars relevant to the Agency's mission. We presented an overview of the computer crime problem and CCD's efforts to thwart such crimes to congressional staff members from the Agency's oversight committees. We also apprised Agency senior executives of CCD's operations and the cyberspace threats directed at the Agency during this period. As part of an ongoing commitment to safeguard the Agency's computer systems, CCD representatives also give periodic threat briefings to NASA employees. We work with Agency personnel to develop policies that will enhance NASA's ability to identify and respond to cyber attacks.

During this period, CCD presented before the IDTECH '98 and Cyber Defense '98 conferences. Our presentations included training on network systems intrusions investigations, cyber response procedures, advanced technologies and future crimes, the management of law enforcement resources for cyberspace crimes, and a related series of topics.

The National Infrastructure Protection Center (NIPC) located at the FBI has invited the CCD to place a representative at the NIPC to ensure close coordination on infrastructure investi-

gations. We have identified a candidate for this position and hope to place that candidate at the NIPC sometime within the next 6 months.

Investigative Proactive Efforts

During this reporting period, the Northern Field Office instituted a Product Substitution Proactive Initiative Team. This team will proactively examine NASA's safety vulnerabilities in receiving inferior and substandard materials on NASA projects. Part of the team's work will be to geographically identify NASA contract management and technical monitoring personnel, as well as NASA prime and subcontractors and the commodities they provide to NASA. The OIG is conducting due diligence to ensure that NASA receives the highest caliber product for its money. The team will also identify weaknesses within NASA systems that would allow NASA to unknowingly accept inferior or substandard materials. NASA's safety is a priority, and we will continue to assure the safety of its projects and personnel. Through this effort, we will initiate criminal or civil investigations on those entities that would attempt to defraud or harm NASA.

Environmental Crimes Initiative

The OIG proposes to use existing NASA technology as an investigative tool to protect the environment. NASA's remote-sensing and satellite imagery technologies offer unique opportunities for law enforcement to



Beowulf Cluster adapted by CCD.

identify and resolve environmental crimes. In conjunction with NASA, EPA, other Federal agencies, and State and local law enforcement and regulatory agencies, we are exploring the application of these technologies as a law enforcement tool.

In July 1998, the OIG presented its remote-sensing initiative before the Environmental Crimes Task Force in Norfolk, Virginia. In September 1998, we presented the concept at an OIG technology briefing to congressional staff representatives. We are working with the Commercial Remote Sensing Project Office at Stennis Space Center, Mississippi, to formalize this initiative as an investigative tool.

OIG Participation in Center Events

Using the OIG exhibit, our staff has participated in numerous outreach activities at their various Center locations. During the NASA Career Exploration Day, several members of the staff were on hand to discuss employment opportunities in the OIG. As a result of our support and participation in this event, the OIG team leader received the Headquarters Equal Opportunity Achievement Award.

Southern Region offices—KSC, JSC, and MSFC—used the OIG exhibit at open house and safety days held at those Centers. Center officials commented favorably on this innovative approach to promote the OIG mission.

Employees of the MSFC OIG participated in the Safety Awareness Day at MSFC. The MSFC OIG distributed approximately 1,500 items promoting the OIG Hotline number. We ran a video presentation related to criminal investigative activities and displayed counterfeit bolts obtained as a result of work on a product substitution case at MSFC. We also distributed copies of OIG reports pertaining to safety-related investigations and audits and answered questions about our work and our mission. The MSFC Safety Coordinator complimented the OIG display and thanked us for our participation. Approximately 3,000 Government and contractor employees attended the event.

INSPECTIONS, ADMINISTRATIVE INVESTIGATIONS, AND ASSESSMENTS

A team of analysts from IAIA and CCD briefed members of NASA top management on concerns and issues related to flight termination and command-destruct systems resulting from our inquiry into X-33 program security operations. The team repeated its briefing for staff of the Office of Safety and Mission Assurance and the Office of Aero-Space Technology.

The Assistant Inspector General for IAIA and the ATPO Executive Director jointly presented OIG concerns and issues regarding information security to the NASA Information Technology Security Program Review Team.



RAC Lance Carrington and team at NASA Career Exploration Day.



Roy Bridges, KSC Center Director, at OIG booth during KSC Safety Days.

Cooperative Activities, Outreach, and Other Activities

The Assistant Inspectors General for IAIA and Investigations jointly presented overviews of the administrative and criminal investigation operations to NASA employees and labor relations officials through a videoconference. We emphasized how the OIG can support and work with NASA human resource professionals.

A team of IAIA analysts and the Assistant Inspector General for Partnerships and Alliances represented the NASA OIG at the National Academy of Sciences/National Research Council Workshop on Methods to Evaluate Research Outcomes.

In a continuing effort to improve and expand NASA OIG outreach, an IAIA team developed and published a prototype newsletter. The NASA OIG Newsletter has a target audience consisting of NASA managers, employees, and contractors. The newsletter is also available on the OIG's web site and is transmitted in hard copy to NASA Officials-in-Charge, key congressional committees and subcommittees, and other interested parties.

The Assistant Inspector General for IAIA presented an overview of IAIA missions and operations to the 1998 Annual NASA Chief and Patent Counsel Conference.

The IAIA staff continued to publish an electronic update of its activities and transmit the reports to management officials, audit liaison representatives, and all NASA OIG staff. These reports contain information about planning

activities, ongoing inspections and assessments, IAIA staff members' backgrounds, and other timely and informative news.

TRAINING

AUDIT

TeamMate Training

In February 1998, the OIG finished a pilot testing program of the Price Waterhouse Coopers electronic working paper package called TeamMate. The results of the testing were favorable, and we purchased a 100-user package of TeamMate 97 for audits. Delivery and distribution were completed in May 1998, and vendor-provided formal classroom training began in June. Approximately 65 percent of the audit workforce had received formal training during this period. Two additional classes were scheduled, in October and November, to complete training for the entire audit staff.

INVESTIGATIONS

CCD conducted training in network systems intrusions investigations for CCD and other personnel from the Inspector General community. Representatives from the OIG's at DoD, the Postal Service, and DOT were among the participants. CCD personnel also participate in critical working groups sponsored by the Attorney General via the Computer Crimes and Intellectual Property Section at the Department of Justice.

These include the Internet Training Working Group, which focuses on developing computer crime-related training courses for all law enforcement officers and prosecutors throughout the United States, and the Digital Evidence Working Group, which focuses on matters pertaining to the handling of digital evidence.

Regional Training Conferences Held

The OIG investigations staff held three regional training conferences. OIG agents in the Northern Region received training that covered physical fitness, firearms, arrest techniques, and defensive tactics. They received legal training in areas such as search and seizure, the trial process, and the rules of criminal evidence and procedure. They also received instruction on interviews and interrogation techniques.

A goal of our Western Region Conference was to maintain the OIG partnering concept with prime NASA contractors. Members from the Boeing Unapproved Parts Program provided a presentation that included their pledge of continued support for the OIG's effort to combat product substitution and counterfeit parts from entering NASA vehicles and equipment. They identified ways in which they could support the OIG, such as identifying suspect parts, testing suspect parts, and providing onsite assistance during searches of companies.

Training at the Southern Region Conference covered such topics as our

working relationships with DCAA, environmental crime issues, working with EPA, and issues in electronic contracting. They were also provided training on conducting fraud awareness briefings and handling sources.

INSPECTIONS, ADMINISTRATIVE INVESTIGATIONS, AND ASSESSMENTS

Inspections and Evaluation Roundtable Training and Development Committee

The IAIA staff actively participates on the Inspections and Evaluation (I&E) Roundtable, an assembly of the heads of Federal OIG inspections and evaluations activities. The IAIA staff sponsors and facilitates the I&E Roundtable Training and Development Committee. We recently conducted a symposium titled "Hot Topics in Federal Acquisitions." The session included presentations and panel discussions on current acquisitions topics, including performance-based contracts, capital programming, and Governmentwide acquisition contracts.

Earned Value Management

The IAIA acquisitions analyst facilitated a national videoconference session for the OIG staff on NASA's Earned Value Management (EVM) approach. EVM provides project managers with valid, timely, and auditable contract performance information on which to base management decisions. OIG auditors and analysts will be evaluating EVM applications as the Agency continues implementation of the process.

APPENDIX I Audit Reports Issued by the OIG

APPENDIX II DCAA Audits of NASA Contractors

APPENDIX III Directives Reviewed by the OIG

APPENDIX IV Glossary and Acronyms



Audit Reports Issued by the OIG

Section 5(a)(6) of the Inspector General Act, as amended, requires a listing of each audit report issued by the OIG during the reporting period and, for each report, where applicable, the total dollar values of questioned costs, including separate identification

of unsupported costs and recommendations that funds be put to better use. For this period, a total of 32 reports identified \$24.6 million in questioned costs and \$44.8 million in recommendations that funds be put to better use.

AUDIT REPORTS ISSUED BY NASA OIG

Report	Report Title & Monetary Amount
IG-98-010	NASA's Plans to Successfully Achieve the Earth Observing System Scientific Objectives
IG-98-011	NASA's International Merchant Purchase Authorization Card Program
IG-98-012	Earth Observing System Data and Information System Federation Plan
IG-98-013	Dissemination of Earth Science Program Data and Information
IG-98-014	Lewis Research Center's Hazardous Waste Manifest Process
IG-98-015	Management Controls on Earth Systems Science Building Contract (**\$385,000)
IG-98-016	Follow-up Audit on Orbiter Maintenance Down Periods at KSC
IG-98-017	Kennedy Space Center's Recycling Efforts
IG-98-018	NASA Data Center General Controls—Shuttle Processing Data Management System
IG-98-019	Aeronautics Program Grant Financial Transactions
IG-98-020	Consolidated Decision for Secure Supercomputers
IG-98-021	Improved Controls Needed Over NASA's Supercomputing Inventory
IG-98-022	Risks Associated With ARC's Acquisition of Military Family Housing
IG-98-023	Observations Regarding Management of Sensitive Equipment
IG-98-024	Cost Sharing of Santa Susana Field Laboratory Cleanup Activities (*\$21,100,000; **\$41,100,000)
IG-98-025	Earth Science Commercial Data Buy Program (**\$871,000)
IG-98-026	Final Management Letter on the Survey of the Joint Base Operations and Support Contract
IG-98-027	NASA Costs Paid to Rehired Former JPL Employees (*\$95,948)
IG-98-028	Transportation Costs for Non-NASA Payloads Flown in the SPACEHAB Module

AUDIT REPORTS ISSUED BY NASA OIG (continued)

Report	Report Title & Monetary Amount
IG-98-031	National Technology Transfer Center (*\$19,500)
IG-98-032	Space Station Configuration Management
IG-98-033	Early Payment and Billing Frequency on Long-Term Contracts
IG-98-034	Information Technology Capital Planning and Investment Control
IG-98-035	NASA General Purpose Vehicles Acquisition and Use (**\$950,000)
IG-98-036	Contingency Planning at Goddard Space Flight Center
IG-98-037	NASA Science Research Institutes
IG-98-038	Commercial Use of the Santa Susana Field Laboratory (*\$1,550,000; **\$1,550,000)
IG-98-039	NASA Data Center General Controls at Lewis Research Center
IG-98-040	Year 2000 Date Conversion—Assessment Phase
IG-98-041	Consolidated Network Mission Operations Support Contract, Transition and Implementation (*\$1,800,000)

DCAA Audits of NASA Contractors

The DCAA provides various audit services to NASA on a reimbursable basis. The audits performed include: proposal evaluations that are used to negotiate a contract price; incurred cost reviews that verify amounts billed to the Government; reviews of contractor estimating, accounting, and purchasing systems; defective pricing reviews; and reviews for compliance with cost accounting standards. The resulting audit reports

are sent to the NASA or Government contracting official having cognizance over the contract or contractor involved. The following sections summarize information provided during this period by DCAA on reports involving NASA activities, results of NASA actions on those reports, and significant reports that have not been completely resolved.

A. AUDIT REPORTS ISSUED

During the period, DCAA issued 1,246 audit reports (excluding pre-award contractor proposal evaluations) on contractors who do business with NASA. The types of audits performed and the results of these audits are shown in DCAA-provided figures shown here. (Dollar figures are in thousands.)

DCAA also issued 143 reports on audits of NASA contractor proposals totaling \$3 billion, which identified cost exceptions totaling about \$232.6 million. These figures include proposals from several contractors bidding on the same contract; therefore, the total amount of exceptions is larger than the amount of potential savings to NASA.

TYPES OF DCAA AUDITS CONDUCTED ON NASA CONTRACTORS

Type of Audit	Number of Audit Reports	Total Costs Questioned	Total Costs Avoided	Total
Incurred Costs	1,071	\$59,758	\$ 0	\$59,758
Defective Pricing	16	\$ 262	\$ 0	\$ 262
Cost Accounting Standards	157	\$ 488	\$ 0	\$ 488
Other Direct Effort	2	\$ 0	\$19,132	\$19,132
Totals	1,246	\$60,508	\$19,132	\$79,640

DCAA Audits of NASA Contractors

B. NASA ACTIONS

Corrective actions taken on DCAA audit report recommendations usually result from negotiations between the contractor and the Government contracting officer. A total of 317 audit reports requiring action by procurement officials or contractors were resolved during the period that ended September 30, 1998. As shown here,

contracting officers sustained \$33.2 million of exceptions included in these reports. Of the exceptions sustained, DCAA categorized \$22.1 million as net savings to NASA. Net savings represent costs for which expenditures would have been made if the exceptions were not sustained. (Dollar figures are in thousands.)

EXCEPTIONS SUSTAINED BY CONTRACTING OFFICERS

Exceptions Sustained From:	Incurred Costs	Proposal Activity	Other	Total
Costs Questioned	\$20,426	\$ 0	\$1,119	\$21,545
Cost Avoidance	\$ 0	\$ 11,654	\$ 0	\$11,654
Totals	\$20,426	\$ 11,654	\$1,119	\$33,199

DCAA Audits of NASA Contractors

C. UNRESOLVED DCAA AUDIT REPORTS

NASA's policy is to make optimum use of contract administration and related support functions, including audit resolution, available from DoD and other Government agencies. However, NASA management retains responsibility for the resolution of audits of direct costs and, in those cases in which NASA is the major customer, for indirect costs and operations audits. As of September 30, 1998, there were 11 DCAA audit

reports totaling \$62.2 million in questioned costs or funds recommended for better use that were unresolved. This figure includes costs subject to negotiation and to determination of allowability. Therefore, all of these costs may not be collectible. The table provides a breakout of reports for which NASA had resolution responsibility and that were unresolved during the period. (Dollar figures are in thousands.)

UNRESOLVED DCAA AUDIT REPORTS

Age of Audits	Over 12 Months	6 to 12 Months	Less Than 6 Months	Total
Number of Audits	10	0	1	11
Recommended for Better Use/Costs Questioned	\$ 44,878	\$ 0	\$17,298	\$62,176

Directives Reviewed by the OIG

MPG 2520.X	Procedures and Guidelines for Telecommunications Services at Marshall Space Flight Center
MPG 2810	Marshall Space Flight Center Information Technology Security
NHB 1101.3	Code M Roles and Mission Statement and Organization Chart
NHB1101.3	Dryden Flight Research Center Organization Chart Change #43—Airborne Sciences Directorate
NHB1101.3	Change 46—Ames Research Center's Roles and Mission Statement
NHB1101.3	Change 46 [sic]—Kennedy Space Center's Roles and Mission Statement
NPC 1152 Draft 5	Engineering Management Council
NPD 1210.1D	Gifts to NASA
NPD 2810	Security and Information Technology
NPD 3451.5A	Acquisition Improvement Awards
NPD 3713.6N	Delegation of Authority to Act in Matters Pertaining to Discrimination
NPD 7100.8A	Protection of Human Research Subjects
NPD 8430.1D	Requirements for NASA Space Operations Services
NPD 8900.3E	Astronaut Medical and Dental Observation Study and Care
NPD 9501.3A	Earned Value Management
NPG 2210	External Release of Software
NPG 5000	Establishing a Science and Research Institute
NPG 8621	Mishap Reporting Investigative Record Keeping
NPG 8715	NASA Safety & Health Handbook, Occupational Safety & Health Programs
NPG 8715	Safety Manual and Procedures
NPG 9501	Earned Value Procurement Handbook

APPENDIX IV

Glossary and Acronyms

Glossary

DISALLOWED COST A questioned cost that management, in a management decision, has sustained or agreed should not be charged to the Government.

EXCEPTIONS SUSTAINED (DCAA Definition) Costs which were questioned by auditors and which agency management has agreed are ineligible for payment or reimbursement. Ineligibility may occur for any number of reasons such as: (1) a lack of satisfactory documentation to support claims, (2) contract provisions, (3) public law, and (4) Federal policies or regulations.

FINAL ACTION† The completion of all actions management has concluded, in its decision, that are necessary with respect to the findings and recommendations included in an audit report; and in the event that management concludes no action is necessary, final action occurs when a management decision has been made.

†These definitions are derived from Public Law 100–504, the Inspector General Act Amendments of 1988.

Investigations by the OIG that may result in the recovery of money or property of the Federal Government. The amounts shown represent: (1) the recoveries which management has committed to achieve as the result of investigations during the reporting period; (2) recoveries where a contractor, during the reporting period, agrees to return funds as a result of investigations; and (3) actual recoveries during the reporting period not previously reported in this category. These recoveries are the direct result of investigative efforts of the OIG and are not included in the amounts reported as the result of audits or litigation.

INVESTIGATIVE RECOVERIES Cases that require additional investigative work, civil or criminal prosecution, or disciplinary action. These cases are referred by the OIG to investigative and prosecutive agencies

at the Federal, state, or local level, or to agencies for management or administrative action. An individual case may be referred for disposition in one or more of these categories.

MANAGEMENT DECISION† The evaluation by management of the findings and recommendations included in an audit report and the issuance of a final decision by management concerning its response to such findings and recommendations, including actions concluded to be necessary.

NET SAVINGS (DCAA Definition) Costs determined by DCAA for which expenditures would have been made if the exceptions were not sustained. For incurred costs, this category represents the Government's participation in costs questioned sustained. For successful fixed-price contractor proposals, it represents costs questioned sustained plus applicable profit. For successful cost reimbursement contractor proposals, net savings represents only the applicable estimated fee associated with the costs questioned sustained.

PROSECUTIVE ACTIVITIES Investigative cases referred for prosecution which are no longer under the jurisdiction of the OIG, except for cases on which further administrative investigation may be necessary. This category represents cases investigated by the OIG and cases jointly investigated by the OIG and other law enforcement agencies. Prosecuting agencies will make decisions to decline prosecution, to refer for civil action, or to seek out-of-court settlements, indictments, or convictions. Cases declined represent the number of cases referred which are declined for prosecution (not including cases which are settled without prosecution). Indictments and convictions represent the number of individuals or organizations indicted or convicted (including pleas and civil judgments).

QUESTIONED COST† A cost that is questioned by the OIG because of: (1) alleged violation of a provision of a law, regulation, contract, grant, cooperative agreement, or other agreement or document governing the expenditure of funds; (2) a finding that, at the time of the audit, such cost is not supported by adequate documentation; or (3) a finding that the expenditure of funds for the intended purpose is unnecessary or unreasonable.

QUESTIONED COSTS FOR WHICH A MANAGEMENT DECISION HAS NOT BEEN MADE Costs questioned by the OIG on which management has not made a determination of eligibility for reimbursement, or on which there remains disagreement between OIG and management. All agencies have formally established procedures for determining the ineligibility of costs questioned. This process takes time; therefore, this category may include costs that were questioned in both this and prior reporting periods.

†These definitions are derived from Public Law 100–504, the Inspector General Act Amendments of 1988.

RECOMMENDATIONS THAT FUNDS BE PUT TO BETTER USE† A recommendation by OIG that funds could be more efficiently used if management took actions to implement and complete the recommendation, including: (1) reductions in outlays; (2) deobligation of funds from programs or operations; (3) withdrawal of interest subsidy costs on loans or loan guarantees, insurance, or bonds; (4) costs not incurred by implementing recommended improvements related to the operations of the establishment, a contractor or grantee; (5) avoidance of unnecessary expenditures noted in preaward reviews of contract or grant agreements; or (6) any other savings which are specifically identified. (Note: Dollar amounts identified in this category may not always allow for direct budgetary actions, but generally allow the agency to use the amounts more effectively in accomplishment of program objectives.)

UNSUPPORTED COST† A cost that is questioned by OIG because OIG found that, at the time of the audit, such cost is not supported by adequate documentation.

Glossary and Acronyms**Acronyms**

AACB	Aeronautics and Astronautics Coordinating Board
AATT	Advanced Air Transportation Technology
AFOSI	Air Force Office of Special Investigations
AGATE	Advanced General Aviation Transportation Experiments
AIGA	Assistant Inspector General for Auditing
AGI	Assistant Inspector General for Investigations
AIGIAIA	Assistant Inspector General for Inspections, Administrative Investigations, and Assessments
AIGPA	Assistant Inspector General for Partnerships and Alliances
ARC	Ames Research Center
ASC	Aviation System Capacity
ATPO	Advanced Technology Program Office
B&P	Bid and Proposal
CCC	Columbia Communications Corporation
CCD	Computer Crime Division
CFO	Chief Financial Officer
CIO	Chief Information Officer
COTS	commercial off-the-shelf
CSC	Computer Sciences Corporation
CSLA	Commercial Space Launch Act
DCAA	Defense Contract Audit Agency
DCIS	Defense Criminal Investigative Service
DCMC	Defense Contract Management Command
DoC	Department of Commerce
DoD	Department of Defense
DOT	Department of Transportation
EOS	Earth Observing System
EPA	Environmental Protection Agency
ESSB	Earth System Science Building
EVM	Earned Value Management
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulation
FBI	Federal Bureau of Investigation
FFMIA	Federal Financial Management Improvement Act
FMFIA	Federal Managers' Financial Integrity Act

FOIA	Freedom of Information Act
FY	Fiscal Year
GAO	General Accounting Office
GSA	General Services Administration
GSFC	Goddard Space Flight Center
I&E	Inspections and Evaluations
IAIA	(Office of) Inspections, Administrative Investigations, and Assessments
IFMP	Integrated Financial Management Project
IMPAC	International Merchant Purchase Authorization Card
IPA	independent public accountant
ISS	International Space Station
IT	information technology
JPL	Jet Propulsion Laboratory
JSC	Johnson Space Center
KSC	Kennedy Space Center
LaRC	Langley Research Center
LeRC	Lewis Research Center
MOU	Memorandum of Understanding
MSFC	Marshall Space Flight Center
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NIPC	National Infrastructure Protection Center
NPD	NASA Policy Directive
NPG	NASA Procedures and Guidelines
NPOESS	National Polar-orbiting Operational Environmental Satellite System
NTR	New Technology Reporting
NTTC	National Technology Transfer Center
OIG	Office of Inspector General
OMB	Office of Management and Budget
OMDP	Orbiter Maintenance Down Period
PCIE	President's Council for Integrity and Efficiency
POES	Polar-orbiting Operational Environmental Satellite
RMD	Resources Management Division
SBA	Small Business Administration
SBIR	Small Business Innovative Research
SFFAS	Statements of Federal Financial Accounting Standards
SICWG	Security and Internal Control Working Group

SPI	Single Process Initiative
SRAS	Statements of Recommended Accounting Standards
SSFL	Santa Susana Field Laboratory
TCE	trichloroethylene
WFF	Wallops Flight Facility
Y2K	Year 2000

Reporting Requirements

The Inspector General Act of 1978, as amended, specifies reporting requirements for semiannual reports. The requirements are listed below and cross-referenced to this report.

IG Act

Citation	Requirement	Page(s)
Section 4(a)(2)	Review of Legislation and Regulations.	57
Section 5(a)(1)	Significant Problems, Abuses, and Deficiencies	17–29
	. . . . .	37–41
Section 5(a)(2)	Recommendations for Corrective Actions	17–19
	. . . . .	37–41
Section 5(a)(3)	Prior Recommendations Not Yet Implemented	33–36
Section 5(a)(4)	Matters Referred to Prosecutive Authorities	37
Section 5(a)(5)	Summary of Refusals to Provide Information	
and 6(b)(2)	. . . . .	31
	. . . . .	57–60
Section 5(a)(6)	List of OIG Audit Reports	73
Section 5(a)(7)	Summary of Significant Audit Reports	17–29
Section 5(a)(8)	Table—Questioned Costs	32
Section 5(a)(9)	Table—Funds to be Put to Better Use	32
Section 5(a)(10)	Summary of Prior, Unresolved Audit Reports	33–36
Section 5(a)(11)	Significant Revised Management Decisions	31
Section 5(a)(12)	Significant Management Decisions with	
	Which the Inspector General Disagreed	31
	. . . . .	57–60

Debt Collection

The Senate Report accompanying the supplemental Appropriations and Rescissions Act of 1980 (Public Law 96-304) requires Inspectors General to report amounts due the agency, and amounts overdue and written off as uncollectible.

The Financial Management Division provides this data each November for the previous fiscal year. For the period ended September 30, 1997, the receivables due from the public totaled \$5,967,000, of which \$2,324,000 is delinquent. The amount written off as uncollectible for the period October 1, 1996, through September 30, 1997, was \$521,000.

